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NON-STANDARD REQUISITIONING PROCESS IMPROVEMENT: COST AND BENEFIT ANALYSIS OF IMPLEMENTING THE AUTOMATED NON-STANDARD REQUISITIONING SYSTEM (ANSRS) WITHIN SUBMARINE FORCES, PACIFIC (SUBPAC)

by

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The primary conclusion is that ANSRS should be implemented within SUBPAC, contingent upon the resolution of several significant problems.

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NON-STANDARD REQUISITIONING PROCESS IMPROVEMENT: COST AND BENEFIT ANALYSIS OF IMPLEMENTING THE AUTOMATED NON-STANDARD REQUISITIONING SYSTEM (ANSRS) WITHIN SUBMARINE FORCES, PACIFIC (SUBPAC)

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ABSTRACT

This research evaluates the Automated Non-Standard Requisitioning System (ANSRS) to determine the feasibility of implementing this technology as a replacement to the manual nonstandard procurement processes currently employed within Submarine Forces, Pacific (SUBPAC). Manual nonstandard procurement processes for both surface ships and submarines, as well as the prototype ANSRS process implemented on several surface ships and shore commands, are discussed, diagrammed, and quantified. These processes are then compared and contrasted, and appropriate conclusions are derived.

The primary conclusion is that ANSRS should be implemented within SUBPAC, contingent upon the resolution of several significant problems.

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I. INTRODUCTION

The purpose of this thesis is to evaluate the functionality and cost of the Automated Non-Standard Requisitioning System (ANSRS) program. It will be evaluated in the context of fleet usage and its application in the submarine community. The dual goals of shifting to a paperless environment and reducing costs have led to the development of automated processing procurement technology such as ANSRS; improvements in readiness are meant to be a byproduct of implementation. This chapter provides background information on the driving forces behind the ANSRS program. Additionally, the objective, scope, methodology, and organization of this study are described.

A. BACKGROUND

In response to the Government Performance and Results Act (GPRA)[1] and the most recent Quadrennial Defense Review (QDR), the Secretary of Defense directed a new strategic approach to the management and operation of national defense efforts [Refs. 1 and 2]. The Department of Defense (DoD) Logistics Strategic Plans (LSP) for fiscal years 1995 and 1998 delineate the framework for implementing the new strategic approach [Refs. 3 and 4]. The evolution of the ANSRS program can be directly matched to several of the 1998 LSP's *Fundamental Principles* and *Logistics Management Imperatives*. These include:

> Fundamental Principles
>
> 1. Logistics organizations should be streamlined and consolidated whenever possible, and unneeded, uneconomical or redundant logistics process segments, cycles, nodes and layers should be reduced or eliminated;

[1] P.L. 103-62

2. Access to accurate and timely logistics information should be provided to all customers; and
3. Performance should be measured based on improvement of customer support and reducing total logistics costs.

Logistics Management Imperatives

1. Reengineer business practices to increase efficiency and reduce logistics resource requirements;
2. Reduce logistics cycle and response times;
3. Effectively employ new technologies to improve performance and reduce costs; and
4. Improve the effectiveness of the logistics workforce.

Although many of the Navy's supply processes have been automated over the years, the purchase of nonstandard inventory and the nonstandard procurement process remains bound in a manual, paper environment. During visits to ashore and afloat activities to ascertain their need for more expedient technical screening and requisition submission methods, file drawers full of old paperwork were discovered. Cumbersome technical manuals, drawings, and microfiche libraries were still being used to screen requirements. Afloat, technical screeners were not able to share data, creating redundancies and resulting in excessive requisition processing time (RPT) and requisition submission time (RST). Ashore, Fleet and Industrial Supply Centers (FISCs) acted as independent, stand-alone regional providers of next-level procurement services [Ref. 5]. Frequently, information provided from the end-user activity to the FISC was incomplete or required further clarification; the inability of the FISCs and end-users to easily communicate and correct paperwork deficiencies often resulted in substantial delays in contracting for the needed material and excessive logistics response time (LRT).

The Naval Supply Systems Command (NAVSUP), in its continuing efforts to reduce costs of operations through standardization, centralization, and downsizing, and to

consolidate the entire nonstandard procurement process at the Navy Inventory Control Point Mechanicsburg (NAVICP-M), developed a PC-based software package, ANSRS. Customer Support Modules at each end-user activity, Procurement Activity Modules at each FISC procurement site, and the Central Database Module (CDB), or Host Module at the Central Technical Activity (CTA),[2] are linked via electronic data interchange (EDI) methods designed to provide a paperless, streamlined communication network .

B. OBJECTIVE

The objective of this study is to determine the feasibility of implementing ANSRS technology as a replacement to manual nonstandard procurement processes currently used within Submarine Forces, Pacific (SUBPAC).

C. SCOPE

In this study, five areas are examined: 1) current technologies and processes relevant to ANSRS development and ANSRS efficacy; 2) ANSRS technology and program objectives; 3) manual nonstandard procurement processes, both afloat and ashore; 4) measures of effectiveness; and 5) performance of the ANSRS prototype onboard surface ships and at shore procurement activities. The first and second areas focus on the past and provide the reader relevant background information. The final three areas present the data supporting the conclusions and recommendations pertinent to the objective of this study.

The ANSRS program is still in the introduction and testing phase of its life cycle. This circumstance has limited the research of this study; how well the ANSRS program integrates and will integrate with other DoD and Navy logistics improvement initiatives is,

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[2] NAVICP-M (Code 054), Data Integrity Division

at this point, in the realm of educated speculation. This research, unless otherwise noted, assumes that the ANSRS program will not adversely affect other logistics improvement initiatives currently underway.

D. METHODOLOGY

This study began with research into the literature associated with the ANSRS program and its claim to improve the manual nonstandard procurement process. NAVSUP and NAVICP-M personnel were interviewed to appraise and report ANSRS program objectives and expected benefits. The prototype Afloat Customer [Support] Module was used to research and simulate the end-user's experience with ANSRS. The manual nonstandard requisitioning process, from the perspective of the submarine end-user, was ascertained through interviews with supply personnel from USS KEY WEST (SSN 722), homeported in Pearl Harbor, Hawaii and by "walking through" requirements from the end-user to the Submarine Logistics Support Center, Pearl Harbor Detachment (SLSC-PH) to FISC Pearl Harbor (FISC-PH). Interviews were conducted with FISC personnel to identify the problems and choke points currently experienced with the ANSRS process, and to document the perceived benefits and/or deficiencies associated with ANSRS implementation. SUBPAC personnel, including the Force Supply Officer and Force Storekeeper, were interviewed to ascertain perspectives and identify concerns with the ANSRS program and its future usefulness to readiness improvement. The perspectives of non-SUBPAC, ANSRS-capable activities were ascertained through interviews and questionnaires. Alternative or hybrid nonstandard procurement method studies were reviewed. A literature search of internet resources was also conducted.

E. ORGANIZATION OF STUDY

The remaining chapters in this thesis are organized as follows: Chapter II provides a literature review and theoretical framework for this study. Chapter III orients the reader to ANSRS implementation background issues and a comparison of the manual and ANSRS procurement process flows. Chapter IV presents, analyzes, and provides interpretations of the data. Chapter V presents conclusions and recommendations relevant to the objective of this study.

II. LITERATURE REVIEW AND THEORETICAL FRAMEWORK

This chapter introduces the reader to the literature requisite to understand both the theoretical framework and the remaining discourse of this study. The theoretical framework of this study is centered around two elements of the manual nonstandard procurement process: Procurement Cycle Time—defined as the interval between the moment the end-user identifies a material or service need to the moment the contract for that need is awarded—and related costs. The two are not unrelated; even in the Navy, time is money. The Navy's *modus operandi* for reducing Cycle Time and costs associated with the nonstandard procurement process, via the ANSRS program, is also an important theoretical issue. The flow of the current manual procurement process is briefly presented. A more detailed presentation of the manual procurement process will be discussed, diagrammed, and quantified in Chapter III, as will the ANSRS flow for surface ships and FISCs.

A. NONSTANDARD MATERIAL

1. Definitions

Nonstandard materials are simply those items of supply that are not centrally managed or procured for supply system stock. Conversely, items that *are* centrally managed or procured for supply system stock are known as "standard" material, assigned a National Stock Number (NSN), and managed in accordance with federal law and the precepts of the Federal Catalog System. ANSRS deals solely with nonstandard items but can also be used for technical screening of standard items.

a. "Traditional" Nonstandard Material

The NAVSUP P-485 lists categories of items exempt from the Federal Catalog System, such as items procured on a one-time basis and items intended solely for local use or consumption [Ref. 6]. Examples include equipage, such as facsimile machines, and some habitability improvement material, such as certain types of floor tile and paint. Major equipment, repairable components, and "throw away" repair parts are generally assigned an NSN. However, it is not always readily apparent whether a particular item is, or has, an acceptable substitute assigned an NSN. Since the current hierarchy of mandatory sources of supply generally dictates ordering standard material before resorting to open procurement, it is imperative to screen one's requirements against available Federal Catalog System databases such as FEDLOG, HAYSTACK, or PARTSMASTER.[3]

b. Commercial Off The Shelf (COTS)/Non-Developmental Item (NDI) and CANDI

As a result of the Federal Acquisition Reform Act of 1996[4], and in an effort to substantially reduce equipment developmental and life cycle support costs, Hardware Systems Commands (HSC) are increasingly seeking ways to exploit COTS and NDI technologies [Ref. 7]. COTS and NDI both refer to previously developed items; the main difference is that COTS technologies are developed in the private sector and usually have commercial applications whereas NDI technologies are developed within the government and usually have no commercial applications. However, there are examples of COTS

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[3] FEDLOG is commonly used throughout the fleet, including submarines and ships. HAYSTACK and PARTSMASTER are typically available only at larger technical screening activities.
[4] P.L. 104-106

technologies developed solely for government use and NDI technologies having commercial applications. Therefore, the encompassing term "CANDI," which stands for COTS and Non-Developmental Item, is often instead used, and will be used in this study. There are two "types" of CANDI: HSC directed and Fleet directed.

2. Nonstandard Material Requirement Determination

A requirement that is identified as nonstandard (i.e., without an assigned NSN) can normally be procured through one of three types of open purchase methods. Various regulations, particularly NAVSUP Instruction 4200.85C, which incorporates pertinent aspects of the Federal Acquisition Regulation (FAR) and the DoD Federal Acquisition Regulation Supplement (DFARS) for simplified acquisition procedures and credit card purchases (see paragraph A3*b* and *c* below), allow open procurement of standard material or waiver of mandatory sources of supply in some cases [Ref. 8]. Here, too, it is imperative that one be able to screen one's requirements accurately. ANSRS provides the end-user the capability to access various types of reference material online, including acquisition regulations.

3. Nonstandard Material Procurement Methods

It is important to note that all of the end-users of this study, both those that currently have ANSRS implemented within their command and those in the submarine community, use funds derived from a congressional appropriation entitled Operations and Maintenance, Navy (O&MN) to procure supplies and services. End-user commands may use other appropriated (and non-appropriated) funds for such things as subsistence and expensive computer systems. Although ANSRS deals with all monetary amounts and other appropriation types used to procure material and services, the discussion in the

remainder of this chapter applies exclusively to procurements using O&MN funds.

a. Large Purchases

Large purchases are procurements that exceed the simplified acquisition threshold of $100,000, or $200,000 for contingency requirements outside of the United Stated [Ref. 8]. Additionally, O&MN funds cannot be used for minor construction projects in excess of $500,000.

b. Small Purchases Without a Credit Card

Procurements that do not exceed the simplified acquisition procedures thresholds above are commonly called "small purchases" or "simplified purchases" and, as implied, are governed by less stringent acquisition regulations than are large purchases. However, unless the contracting office making the purchase has been FACNET certified, small purchases cannot exceed $50,000 [Ref. 8].[5]

c. Small Purchases With a Credit Card

A procurement of authorized supplies and services, the aggregate amount of which does not exceed $2,500, is known as a "micro-purchase." In accordance with the National Performance Review of 1993, credit cards are to be used for micro-purchases [Ref. 9]. There are, however, certain restrictions to using credit cards; for example, credit cards cannot be used to procure hazardous materials, or services of any type [Ref. 8]. The main advantage of a micro-purchase is that a contract can be awarded without soliciting

[5] The Federal A isition Computer Network (FACNET) is the government-wide systems architecture for the acquisition o upplies and services. It provides for electronic data interchange (EDI) of acquisition information between the government and the private sector, employs nationally and internationally recognized data formats, and provides universal user access. FACNET certification requires that more than 75 percent of an agency's small purchases exceeding $2,500 be made via FACNET. See FAR 4.504 and Ref. 8 for complete certification requirements.

competitive quotations, as long as the contracting officer determines that the price is reasonable. The advantages of using the credit card are a streamlined (and, currently, a less expensive) payment procedure and a reduction in paperwork requirements. These advantages save time. NAVICP-M data indicates that approximately 80 percent of all purchases are micro-purchases and, unless restricted, are eligible for procurement with a credit card.

B. CYCLE TIME

The term "Cycle Time" will be used in this study and, as such, is defined as *the interval between the moment the end-user identifies a material or service need to the moment the contract for that need is awarded.* In this study, Cycle Time does not include manufacturing lead times and shipment/transportation times because ANSRS is not designed to automate those actions. Cycle Time is broken down into the following three segments:

1. Requisition Preparation Time (RPT)

RPT is the interval between the moment the end-user identifies a need to the moment when the procurement document is completed onboard the ship or submarine. RPT activities include conducting initial research, ordering, preparing the procurement document, conducting technical screening, obtaining requisite approvals, and assigning a requisition number.

2. Requisition Submission Time (RST)

RST is the interval between the moment when the procurement documented is completed onboard the ship or submarine to the moment the document is accepted by the procurement activity. "Acceptance" does not occur until the procurement activity is

satisfied with the accuracy of the procurement document. Therefore, if the procurement activity returns a previously delivered procurement document to the ship or submarine because of inaccurate or missing information, the resultant delay is part of RST.

3. Procurement Administrative Lead Time (PALT)

PALT is the interval between the moment the procurement document is accepted at the procurement activity to the moment the contract is awarded (i.e., the amount of time it takes a buyer to make a buy). PALT standards vary among different procurement activities, even those at the same level such as FISCs.

C. EC/EDI

1. Definitions

a. Electronic Commerce (EC)

EC is the paperless exchange of business information using Electronic Data Interchange (EDI), electronic mail (e-mail), computer bulletin boards, FAX, electronic funds transfer (EFT), and other similar technologies [Ref. 10].

b. Electronic Data Interchange (EDI)

EDI is the computer-to-computer exchange of business information using a public standard such as ANSI-X12 or EDIFACT.[6] EDI is a central part of EC, because it enables businesses to electronically exchange business information faster, cheaper, and more accurately than is possible using paper-based systems [Ref. 10]. ANSRS incorporates EDI in its program capabilities.

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[6] See Ref. 9, Chapter 7 for American National Standards Institute (ANSI) standards. conventions. and formats. U.S. Government agencies use the ANSI X12 format. EDIFACT is used internationally and is the United Nations standard.

2. Origins of EDI

EDI was first used in the transportation industry more than 20 years ago by ocean, motor, air, and rail carriers and associated shippers, brokers, customs, freight forwarders, and bankers. The first set of industry EDI standards were developed by the Transportation Data Coordinating Committee (TDCC) and consisted of 45 transaction sets for the transportation industry. ANSI X12 standards were developed later and are based upon the TDCC syntax and format. More than 50,000 private-sector companies in the United States currently use EDI. Many more use it internationally [Ref. 10].

3. Benefits of EDI

As discussed in the first paragraph of this study, shifting to a paperless environment and reducing costs are the dual goals of automating the nonstandard material procurement process. The stated benefits of EDI dovetail with these goals. Those benefits are [Ref. 10]:

1. Improvements in overall quality through better record-keeping, fewer data errors, reduced processing time, and less reliance on human interpretation of data;
2. Lower mailing costs will be realized through reduced postage and other mailing costs and elimination of lost documents;
3. Reduced order time and less paperwork;
4. Faster billing. Since orders are processed sooner, billing and closeout can occur sooner; and
5. Better information for management decision making, including more accurate audit trails.

4. Federal Acquisition Streamlining Act (FASA) of 1994[7]

FASA was enacted to simplify and streamline the federal procurement process. Intended to significantly change how the Government does business, FASA repealed or

[7] P.L. 103-355

substantially modified more than 225 provisions of the law to reduce paperwork burdens, facilitate the procurement of commercial products, enhance the use of simplified procedures for small purchases, transform the procurement process to Electronic Commerce, and improve the efficiency of the laws governing the procurement of goods and services. The most significant provisions of FASA include [Ref. 10]:

1. Emphasizing the procurement of commercial products;
2. Streamlining procurement procedures under an elevated small purchase threshold (see paragraph A3*a* above for current thresholds);
3. Implementing FACNET;
4. Establishing uniformity in the procurement system; and
5. Improving protest and oversight processes and authorizing specific pilot programs

5. Commercial Software Packages

There are a number of commercially available software procurement packages that profess a high degree of adaptability and flexibility.[8] All of those reviewed by the author are Windows-based and appear to be modifiable to conform with Navy-specific automated nonstandard material purchasing requirements. However, commercial software packages were not considered by NAVSUP because the complexities of the tasking, file interface requirements, and the operating environment were judged to be too unique for any CANDI program to fully adapt/accommodate [Ref. 11].

D. ANSRS

1. Introduction

Informal research conducted by NAVSUP 41 and the NAVSUP ANSRS Program Manager for FY94-96 estimated that 5-6% (~ 440,000) of all requisitions submitted by all Navy activities were for nonstandard material [Ref. 11]. It was intended to determine, in a

[8] The author reviewed six commercial software brochures.

general sense, whether automating nonstandard material procurement processes was a worthwhile objective to pursue. Standard material counts were derived from both NAVICPs whereas nonstandard counts were derived from FISCs. Manually processing such a large number of requisitions requires a great deal of resources, in terms of labor, paper, time, and money, and presented an ideal opportunity to effect cost savings and eliminate inefficiencies through automation. Therefore, in late May 1995, NAVSUP 04 directed the development of a system to automate the processing of nonstandard procurements and record results of technical screening actions, to be delivered by April 01, 1996. Along with the functional and operational complexities discussed in paragraph C5, and the desire to combine and standardize similar but separate efforts then underway to automate nonstandard procurement and modernize technical screening research tools, this time frame constraint precluded any serious consideration of commercially available software packages [Ref. 11]. Instead, under NAVSUP guidance and CTA control, programmers from the Fleet Material Support Office (FMSO) merged the full functionalities of two ANSRS precursors, TSES and SPEED.

2. Precursors to ANSRS

a. Technical Screening Expert System (TSES)

TSES incorporated most functionalities of the envisioned automated nonstandard procurement system and was therefore designated to form the core program, to which other required functions would be added. Developed at NAVICP-M, TSES provided a technical screening function which focused on the identification of hazardous material (HAZMAT) substitutes and compliance with U.S. laws and international treaties

concerning HAZMAT, ozone-depleting substances, and plastics disposal. Appendix A lists TSES capabilities [Ref. 13].

b. Standard Processing Environment for Electronic Documents (SPEED)

Developed at FISC Oakland, SPEED is mainly a vehicle for nonstandard requisition transmission and status update reception. SPEED is capable of transmitting completed work to the Automated Procurement and Accounting Data Entry (APADE) system, the FISCs' system for contracting. Appendix B lists SPEED capabilities [Ref. 13].

c. APADE Off Line (AOL)

As noted earlier, the full functionalities of TSES and SPEED were retained. The functionalities of AOL, however, were not considered because AOL requires the afloat end-user to learn the file structure and submission procedures for APADE. This requirement is counter to NAVSUP's strategic goal of reducing workload afloat [Ref. 11].

3. Program Description

NAVSUP's *ANSRS Information Pamphlet* describes the ANSRS program as follows [Ref. 5]:

> ANSRS is an automated (paperless environment) program which performs a basic-level technical review (customer level) of each requirement, generates an electronic requisition, downloads [the] requisition via the Streamlined Alternative Logistics Transmission System (SALTS) and forwards it to the CTA/FISC. ANSRS automatically screens incoming electronic requisitions. Validations and edits are built into the system and communication between all participants occurs via SALTS/EDI, and Military Standard Transaction Requisitioning and Issue Procedures (MILSTRIP) via Uniform Inventory Control Program

(UICP)/Uniform Automated Data Processing System (UADPS)/Shipboard Uniform Automated Data Processing System (SUADPS) transmissions, so as to maintain status and demand criteria. The system screens out exceptions and queues those items with inadequate data for manual review. As part of this process, ANSRS produces a database of all nonstandard requisitions, resident, maintained and updated at the CTA. A tailored version will be distributed via CD-ROM as part of the Customer and FISC/Procurement modules. As records of new items are added to the CTA nonstandard database, providing historical data and past procurement history, the program will become more proficient at screening requisitions, expediting technical screening of subsequent requisitions for same or similar items. Savings with respect to purchase of hazardous materials and storage of these materials will be realized since each technical screener at the customer, FISC and CTA level will have access to technical information identifying these items and the methodology necessary to process them correctly.

The centralization of the nonstandard requisitioning process at the CTA will create a central repository for data to allow collection or part-numbered information, visibility of all part-numbered buys and will facilitate faster and more efficient service to the customer. In the long-run, as ANSRS propagates and assimilates users, the cost of processing nonstandard buys will decrease and will ultimately drive down the total weapon system support costs.

In other words, ANSRS provides varying degrees of technical screening capability at all levels, the ability to consolidate and analyze nonstandard procurement data at the CTA, and an EDI method for reciprocal communication between all parties. It does not, however, directly assist the requisitioning activity in influencing the manufacture, release, and shipment of their requirements subsequent to contract award.

The ANSRS prototype is a DOS-based, menu-driven application, which can be loaded into a personal computer (PC). The prototype does not interface with any version of the afloat shipboard maintenance/supply/financial computer systems known as SNAP (Shipboard Non-tactical ADP Program), and therefore does not meet the precepts of R-

Supply and IT21.[9] In January 1998, the CTA is scheduled to deliver a Windows NT version of ANSRS to the Navy Management Systems Support Office (NAVMASSO) for Technical Compatibility Testing (TCT) and, if it passes TCT, for inclusion on NAVMASSO's Preferred Products List (PPL). The final shipboard version could be ready as early as April 1998 or as late as June 1998 [Refs. 11 and 12]. This version will interface with SNAP. Until November 1997, when it was removed, a Customer Support Module was available on the Internet, although it could not be used to actually procure material.

4. Program Objectives and Benefits

The following section provides a brief overview of some of the more salient benefits ANSRS is designed to provide to the end-user. The System, Customer Support Module, Procurement Activity Module, and Host Module objectives are listed in Appendix C [Ref. 13].

a. Integrated System

For LAN-capable ships, the ANSRS program is installed throughout, down to the division end-user and/or Repair Parts Petty Officer (RPPO). The requirement can be developed by the end-user and submitted via the LAN for Supply Department review and approval by the Hazardous Material Officer, Department Head, Supply Officer, and/or the Commanding Officer as required, based on the requisition priority and/or the type of material or service required.

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[9] Relational Supply (R-Supply) generally refers to ADP systems that are capable of updating separate databases with a single data entry keystroke; all supply-related ADP equipment is connected into one system. Information Technology 21st Century (IT21) is an overall set of principles that state that all ADP equipment should be compatible.

b. Non-Standard Database (NSDB)

The NSDB contains all of the requisitions submitted by ANSRS customers and procurements made by the procurement activities for all unique cage/part number relationships. It is maintained by the CTA at NAVICP-M. Once this data is in the file, and that combination is required again, all cage/part number data—as well as the requisitioner's default data—are pre-loaded into the procurement document. Procurement history files are also attached to later facilitate the procurement. NSDB data updates are provided to all ANSRS installations on a regular basis via CD-ROM.

c. Reduced Workload

ANSRS automatically screens any requirement not resident within the NSDB for hazardous material identification and NSN substitutes. Additionally, ANSRS has hotkey connections to resident and non-resident reference resources, reducing the need to maintain separate paper/fiche/CD-ROM libraries. As more items are added to the NSDB, the requirement for additional technical screening and research will diminish. ANSRS also allows requisitions to be batch processed and transmitted.

d. Enhanced LRT

ANSRS will reduce LRT—the time interval between the date of the requisition and receipt of the requirement—as pre-transmission technical screening and document entry errors decrease, thereby decreasing the need for the procuring activity to request clarification and/or repeat technical screening. Additionally, transmitting to the procuring activity via EDI instead of physically walking through the requirement decreases the need for the procuring activity to manually re-enter procurement data into APADE.

Other LRT segments, such as manufacturer/vendor release time and shipping time, are not materially influenced by ANSRS.

E. MANUAL PROCUREMENT PROCESS FLOW

The manual procurement process onboard a surface ship or a submarine begins when the end-user identifies a nonstandard material or service requirement. It ends when the contract award, or buy, takes place (the time taken to complete this process determines Cycle Time). Subsequent, post-award actions taken on behalf of the requirement, such as requisition expediting, shipment/transportation, or receipt processing, are not considered part of the manual procurement process flow (nor Cycle Time) in this study because ANSRS does not automate those actions.

1. Surface Ship

a. Process Without a Credit Card

Once the nonstandard requirement is identified, the end-user orders the requirement on the shipboard maintenance/supply/financial computer, one of several versions of the SNAP system. The requirement will either be for a repair part (to repair an equipment) or for "consumable" materials or services (e.g., equipage, paint, vehicle rental). The latter are called money value only (MVO) requirements, which are often of a recurring nature and require less technical screening (an important point in this study). Repair parts are ordered under a pre-existing job (i.e., a defined maintenance action resident within SNAP); MVO requirements are ordered under a separate function. Next, the end-user prepares a procurement document by hand that provides the detailed information required by the Supply Department to perform technical screening and the procurement activity at the FISC to make the buy, usually a DD Form 1348-6 or DD

Form 1149 (Figures. 2.1 and 2.2). The document is administratively screened for format and content before being technically screened for NSN substitutes, HAZMAT compliance, and authorization for shipboard use. HAZMAT must be listed on the ship-tailored Ships Hazardous Materials List (SHML); otherwise, a SHML Feedback Report must be submitted to the Type Commander (TYCOM). The document then proceeds through an approval sequence that includes the end-user's Department Head, the Supply Officer and, if hazardous (HAZMAT) or restricted material, the Hazardous Materials Officer and/or the Commanding Officer. The time taken to complete the above actions determines RPT. Finally, the signed paper document is delivered to the FISC, where it undergoes another technical screening and is delivered to a buyer for award using a DD Form 1155 (Figure 2.3). The time taken to complete these actions determines RST and PALT. At any point in this series of events, incomplete or unclear information will result in the return of the document to the end-user for correction and/or clarification.

b. Process With a Credit Card

The manual procurement process using a credit card is the same as that described above except that there is no need to deliver the document to the FISC. Once the required shipboard approvals have been received, the credit card holder can buy any authorized repair part or consumable material (services are prohibited) from the manufacturer/vendor. Contacts with the manufacturer/vendor can be done via phone, fax, email, or in person. Written internal operating procedures must be on file and the Supply Department must maintain a log of all buys [Ref. 8].

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DOCUMENT NO. (Cont.)							DEMAND	SUPPLEMENTARY ADDRESS							SIGNAL	FUND CODE		DISTRI-BUTION CODE		PROJECT CODE			PRIORITY		REQUIRED DELIVERY DAY OF YEAR			ADVICE CODE		BLANK			
DATE			SERIAL					SERV																									
36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69

												REJECT CODE (FOR USE BY SUPPLY SOURCE ONLY)		IDENTIFICATION DATA
														*1. MANUFACTURER'S CODE AND PART NO. (When they exceed card columns 8 thru 22)
70	71	72	73	74	75	76	77	78	79	80		65	66	
														2. MANUFACTURER'S NAME

3. MANUFACTURER'S CATALOG IDENTIFICATION	4. DATE (YYMMDD)	5. TECHNICAL ORDER NUMBER
6. TECHNICAL MANUAL NUMBER	7. NAME OF ITEM REQUESTED	
8. DESCRIPTION OF ITEM REQUESTED		8a. COLOR
		8b. SIZE
9. END ITEM APPLICATION		9a. SOURCE OF SUPPLY

9b. MAKE	9c. MODEL NUMBER	9d. SERIES	9e. SERIAL NUMBER
10. REQUISITIONER (Clear text name and address)	11. REMARKS		

FOLD LINE

FOLD LINE

DD Form 1348-6, FEB 85 *Edition of Apr 77 may be used until exhausted. S/N 0102-LF-013-2273*

DOD SINGLE LINE ITEM REQUISITION SYSTEM DOCUMENT *(MANUAL - LONG FORM)*

Figure 2.1

*U.S. GOVERNMENT PRINTING OFFICE: 1989-607-293

HIPPING CONTAINER TALLY → 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50

REQUISITION AND INVOICE / SHIPPING DOCUMENT

Form Approved OMB No. 0704-0246 Expires Oct 31, 1991

Public reporting burden for this collection of information is estimated to average 15 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0246), Washington, DC 20503

FROM: *(Include ZIP Code)*	SHEET NO	NO. OF SHEETS	5. REQUISITION DATE	6. REQUISITION NUMBER
	7. DATE MATERIAL REQUIRED *(YYMMDD)*			8. PRIORITY
TO *(Include ZIP Code)*	9. AUTHORITY OR PURPOSE			
	10. SIGNATURE			11a. VOUCHER NUMBER & DATE *(YYMMDD)*
SHIP TO-MARK FOR	12. DATE SHIPPED *(YYMMDD)*			b.
	13. MODE OF SHIPMENT			14. BILL OF LADING NUMBER
	15. AIR MOVEMENT DESIGNATOR OR PORT REFERENCE NO.			

APPROPRIATIONS SYMBOL AND SUBHEAD	OBJ. CL.	BUR. CONT. NO.	SUBAL-LOT	AUTHORIZATION ACCT'G ACTIVITY	TRANS. TYPE	PROPERTY ACCT'G ACTIVITY	COUN-TRY	COST CODE	AMOUNT

ITEM NO. (a)	FEDERAL STOCK NUMBER, DESCRIPTION, AND CODING OF MATERIEL AND/OR SERVICES (b)	UNIT OF ISSUE (c)	QUANTITY REQUESTED (d)	SUPPLY ACTION (e)	TYPE CON-TAINER (f)	CON-TAINER NOS (g)	UNIT PRICE (h)	TOTAL COST (i)

16. TRANSPORTATION VIA MATS OR MSTS CHARGEABLE TO

17. SPECIAL HANDLING

18. OF SHIPMENT	ISSUED BY	TOTAL CON-TAINERS	TYPE CON-TAINER	DESCRIPTION	TOTAL WEIGHT	TOTAL CUBE
	CHECKED BY					
	PACKED BY					
				← TOTAL →		

19. RECEIPT				
	CONTAINERS RECEIVED EXCEPT AS NOTED	DATE *(YYMMDD)*	BY	SHEET TOTAL
	QUANTITIES RECEIVED EXCEPT AS NOTED	DATE *(YYMMDD)*	BY	GRAND TOTAL
	POSTED	DATE *(YYMMDD)*	BY	20. RECEIVER'S VOUCHER NO.

DD Form 1149, MAR 89
N 0102-LF-007-2300

51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

Previous editions are obsolete.

(Navy Overprint 1989)

ORIGINAL

Figure 2.2

U.S.GPO:1992-606-841

ORDER FOR SUPPLIES OR SERVICES

(Contractor must submit four copies of invoice.)

Form Approved
OMB No. 0704-0187
Expires Aug 31, 1992

PAGE 1 OF

1 CONTRACT/PURCH ORDER NO	2 DELIVERY ORDER NO	3 DATE OF ORDER	4 REQUISITION/PURCH REQUEST NO	5 CERTIFIED FOR NATIONAL DEFENSE UNDER DMS REG 1
				DO

6 ISSUED BY	CODE	7 ADMINISTERED BY (If other than 6)	CODE	8 DELIVERY FOB
				☐ DEST ☐ OTHER *(See Schedule if other)*

9 CONTRACTOR	CODE	FACILITY CODE	10 DELIVER TO FOB POINT BY *(Date)*	11 MARK IF BUSINESS IS
NAME AND ADDRESS			12 DISCOUNT TERMS	☐ SMALL ☐ SMALL DISAD-VANTAGED ☐ WOMEN-OWNED
			13 MAIL INVOICES TO	

14 SHIP TO	CODE	15 PAYMENT WILL BE MADE BY	CODE	MARK ALL PACKAGES AND PAPERS WITH CONTRACT OR ORDER NUMBER

16 TYPE OF ORDER — ☐ DELIVERY ☐ PURCHASE

This delivery order is issued on another Government agency or in accordance with and subject to terms and conditions of above numbered contract.

Reference your _____ furnish the following on terms specified herein.

ACCEPTANCE. THE CONTRACTOR HEREBY ACCEPTS THE OFFER REPRESENTED BY THE NUMBERED PURCHASE ORDER AS IT MAY PREVIOUSLY HAVE BEEN OR IS NOW MODIFIED, SUBJECT TO ALL OF THE TERMS AND CONDITIONS SET FORTH, AND AGREES TO PERFORM THE SAME.

NAME OF CONTRACTOR	SIGNATURE	TYPED NAME AND TITLE	DATE SIGNED

☐ If this box is marked, supplier must sign Acceptance and return the following number of copies

17 ACCOUNTING AND APPROPRIATION DATA

ITEM NO	APPROPRIATION SYMBOL AND SUBHEAD	OBJECT CLASS	BUREAU CONT NO	SUB-ALLDT	AUTH'N ACCT'G ACT'Y	TRANS. TYPE	PROPERTY ACCT ACT'Y	COUN-TRY	COST CODE	AMOUNT

18 ITEM NO.	19 SCHEDULE OF SUPPLIES/SERVICE	20 QUANTITY ORDERED/ ACCEPTED*	21 UNIT	22 UNIT PRICE	23 AMOUNT

* *If quantity accepted by the Government is same as quantity ordered, indicate by X. If different, enter actual quantity accepted below quantity ordered and encircle.*

24. UNITED STATES OF AMERICA

BY _____ CONTRACTING/ORDERING OFFICER

25 TOTAL	
29 DIFFERENCES	

26 QUANTITY IN COLUMN 20 HAS BEEN

☐ INSPECTED ☐ RECEIVED ☐ ACCEPTED, AND CONFORMS TO THE CONTRACT EXCEPT AS NOTED

_____ _____
DATE SIGNATURE OF AUTHORIZED GOVERNMENT REPRESENTATIVE

27 SHIP NO.	28 D.O. VOUCHER NO	30 INITIALS
☐ PARTIAL ☐ FINAL	32 PAID BY	33 AMOUNT VERIFIED CORRECT FOR
31 PAYMENT ☐ COMPLETE ☐ PARTIAL ☐ FINAL		34 CHECK NUMBER
		35 BILL OF LADING NO.

36 I certify this account is correct and proper for payment.

_____ _____
DATE SIGNATURE AND TITLE OF CERTIFYING OFFICER

37 RECEIVED AT	38 RECEIVED BY	39 DATE RECEIVED	40 TOTAL CONTAINERS	41 S/R ACCOUNT NUMBER	42 S/R VOUCHER NO.

DD Form 1155 (8PT), MAY 90 *Previous editions are obsolete.* S/N 0102-LF-011-4700

Figure 2.3

2. Submarine

The identification, ordering, procurement document preparation, and approval process for a submarine is the same as that of a surface ship. However, Supply Officers of submarines generally do not carry their own credit card and submit all of their nonstandard procurement requirements to the SLSC-PH.[10] Additionally, the vast majority of procurements onboard submarines are MVO requirements. Storekeepers (SK) assigned to USS KEY WEST (SSN 722) could not recall ever ordering a nonstandard repair part (although they knew how) [Ref. 14]. The SUBPAC Force Storekeeper recalled ordering only one nonstandard repair part in four years aboard his last submarine and, of the approximately 25 submarines he has inspected in his current position, has seen "very few" [Ref. 15].

A short tangent is appropriate here to discuss the underlying causes of low nonstandard repair part procurements by submarines: configuration management and demand reporting. Configuration management basically consists of validating actual onboard equipment against those listed in the Weapons System File (WSF) located at NAVICP-M. Accurate configuration validation and reporting leads to accurate onboard NSN repair part support. Accurate and, importantly, complete demand reporting leads to more NSN assignments to nonstandard repair parts that are used with any frequency. If done properly, the above actions result in less reliance on nonstandard repair parts, although this situation could change in the future with an increased use of CANDI. SUBPAC submarines are able to attain a configuration accuracy in excess of 93 percent [Ref. 16] because they are able to devote the time necessary to conduct accurate

[10] Some SUBLANT submarines maintain their own credit card whereas none do in SUBPAC as yet.

configuration management and are supported by a database that records almost all of their demands.

Interposed between the submarine and FISC-PH is SLSC-PH.[11] Located in the same building as FISC-PH, the goals of SLSC-PH are to reduce the workload of the afloat submarine Supply Department and increase the submarine's supply readiness. SLSC-PH logs the requirement, performs a procurement document accuracy check and an additional technical screen, then either makes the buy (for credit card purchases) or walks the document to the FISC buyer. After the buy is completed, all procurement data is input into the Integrated Submarine Information System (ISIS) for recording in the Submarine Logistics Data Base (SLDB), a centralized demand reporting database maintained at King's Bay, Georgia [Ref. 17]. The time taken to deliver the document to SLSC-PH, and the processing time taken by SLSC-PH prior to making a credit card buy or the document's acceptance at FISC-PH, are included in RST.

F. CHAPTER SUMMARY

The Navy classifies material into two categories: standard and nonstandard. Services are always "nonstandard." If available, standard material must be procured before nonstandard sources can be contemplated. There are numerous rules and regulations governing the procurement of nonstandard materials and services. It is important for the end-user to understand when and how nonstandard material or services can be procured. This study uses the term "Cycle Time" to measure the interval between the time the end-user identifies a nonstandard requirement and the time the contract for that requirement is awarded. Cycle Time is broken down into three segments: RPT, RST,

[11] Similar activities service other submarine bases.

and PALT. EC/EDI methods are used to enhance the exchange of data. Legislation requires the use of these methods as a way to produce process efficiencies, and they play a key role in efforts to reduce Cycle Time.

ANSRS was designed to automate and streamline the nonstandard procurement process. It evolved from several automated systems, principally TSES and SPEED. ANSRS provides the end-user with an integrated system that will reduce workload and reduce the time it takes to receive nonstandard material and services. This chapter closes with a broad presentation of the manual nonstandard procurement processes common to surface ships and submarines. Chapter III provides the reader more detail on the manual process and quantifies both the manual and ANSRS nonstandard procurement processes.

III. PROCUREMENT AND ANSRS

Unlike surface vessels, which have the ability to replenish stores at sea, and shore stations, which are fixed in place, submarines must receive all of their requirements *before* getting underway. This results in an urgency that has spurred the submarine community to invest in and develop logistics procedures generally considered superior to those employed by surface, air, and/or land-based fleet communities. Since the submarine community is somewhat logistically different, implementation of ANSRS within the submarine community may also be somewhat different. This chapter provides background on the limited implementation of ANSRS within the Navy and a brief overview of the ANSRS Afloat Customer Module (ACM) prototype. Additionally, the manual procurement process flow will be discussed, diagrammed, and quantified, as will the ANSRS procurement process flow for surface ships and FISCs. To date, ANSRS has not been implemented onboard any submarine.

A. ANSRS IMPLEMENTATION

1. Background

a. Strategy

The implementation strategy for the DOS-based ANSRS prototype initially called for installing a Procurement Activity Module at each FISC, and a Customer Support Module onboard two afloat customers of each FISC. The ongoing development of the Windows NT version has ended further installations until the newer version is completed.

b. Schedule

The first prototype installations, at FISC Norfolk and onboard USS SAIPAN (LHA 2), were completed in March 1996. The last prototypes were installed in August 1997. Prototype versions are installed at 11 FISCs/FISC satellites, 14 ships (including two carriers), three Naval Air Stations (NAS), two Ship Repair Facilities (SRF), and two Fleet Activities (FLEACT). ANSRS is to be installed at all Navy customer activities, although the installation schedule has not been promulgated. See Appendix D for a list of sites implemented.

2. Responsibilities

a. Prototype Version

In addition to assuming developmental responsibility for the ANSRS prototype, the CTA was responsible for its deployment to shore activities and prototype ships, including aircraft carriers. The CTA is also responsible for evaluating ANSRS prototype performance [Ref. 12].

b. Windows NT Version

Responsibility for deploying the Windows NT version of ANSRS to afloat units, including aircraft carriers, will belong to NAVMASSO, under the direction of NAVSUP 43. Shore activity implementation responsibilities will remain with the CTA [Refs. 11 and 12].

c. *"ANSRS-Air"*

Although not assigned any implementation responsibilities, it is important to note here that, because of differing organizational responsibilities and capabilities, NAVICP Philadelphia (NAVICP-P) will retain the personnel responsible for the deep

technical screening (see next paragraph) and compilation of aviation-related nonstandard procurements. Procurement data will, however, be passed to NAVICP-M for inclusion in the NSDB. Although the NAVICPs may never combine personnel at one central location, ANSRS should eventually provide a single "face to the fleet" [Ref. 12].

d. Deep Technical Screening

Deep technical screening refers to the process of validating nonstandard repair part procurements initiated by the end-user against the end-user activity's Weapons System File (WSF) at either NAVICP-M or NAVICP-P. Results of deep screening could range from *a*) inclusion of the nonstandard repair part in the end-user's Coordinated Shipboard Allowance List (COSAL), Aviation Consolidated Allowance List (AVCAL), Coordinated Shore Base Allowance List (COSBAL), or Shore Consolidated Allowance List (SHORCAL); to *b*) triggering a complete validation check of the end-user's equipment configuration.

B. PROTOTYPE AFLOAT CUSTOMER MODULE

1. Installation and Setup

The ACM[12] consists of four 3.5 diskettes and requires 17.84 MB of hard drive space. It can operate in three types of PC environments: standalone, LAN Server, or LAN Workstation. Installation and setup were completed in less than 15 minutes. Installation instructions were easy to comprehend. Setup instructions were less explicit, but not overly complex.

[12] NAVSUP PUB 700 (Jan 95). NSN 0530-LP-190-2800

2. Operation

After logging on to the ACM, the user can select a course of action from one of five menus: Requisition, Database, Approval, Security, and Help. Except for the Help menu, each menu consists of several functions.[13] There are additional "hotkey" functions used to access reference files, either resident in the computer's hard drive or imported via disk. The ACM allows the user to either perform a technical screening or construct a procurement document. Technical screening was easy to accomplish; the logic paths were easy to follow and the sources were easy to access. The ACM is good at prompting the user for missing information required in the data tables. The menus were easy to understand and the ACM appears to incorporate the Customer Support Module objectives contained in Appendix C [Ref. 13].

C. MANUAL AND ANSRS PROCUREMENT PROCESS FLOWS

In this section, manual and ANSRS procurement process flows are discussed and diagrammed using flow charts. Time is quantified to the greatest possible extent, given the organization and effectiveness of different activities, and presented as a value range. The ranges show *approximate* values that were derived from averaging questionnaire responses (see Appendix E) and data obtained via other means, such as interviews. Pertinent comments from interviews and questionnaire responses are include in the discussion as noted in brackets and *[italics]*. For convenience, relevant flow charts (Figures 3.1 through 3.5) are located at the end of this section.

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[13] The Help menu, in the author's view, is misnamed. It provides no help topic selections, but instead only the names of the software designers/programmers and some phone numbers to call for technical support.

1. Manual Process Flow Through Surface Ship to FISC and Buyer

The following manual procurement process flow discussions and depictions are derived from telephone interviews with Supply Department personnel assigned to various Naval Surface Forces Pacific (SURFPAC) ships, personal and telephone interviews with FISC personnel, through questionnaire responses, and the author's eight years of experience aboard USS WHIPPLE (FF 1062), USS FIFE (DD 991) and as a SURFPAC staff officer. *[Ships reported initiating 15 to 90 nonstandard procurements a month, or 0.5 to 3 per day. Approximately 75 percent were credit card purchases for those commands using a credit card. Depending on the urgency and type of the requirement, RPT was completed in about one hour to over one day (see Table 3.1). Depending on the urgency of the requirement, method/type of procurement, and mode of delivery to the FISC (if not a credit card buy), RST/PALT took 1 hour to 25 days (see Table 3.2). Total Cycle Time ranged from about 2 hours to 26 days (see Table 3.3).]*

Some steps in the manual procurement process flow are conducted differently by separate ships although the same outcome is achieved. For instance, some ships require the end-user to order an MVO requirement in SNAP and fill out a procurement document before the SK will conduct technical screening. Others require only a locally developed worksheet that is used by the SK to conduct technical screening; it is the SK who inputs the MVO requirement into SNAP and fills out the procurement document. Sometimes the Commanding Officer will not sign a document until the Supply Officer does; usually, however, the Supply Officer signs last. Sometimes the SK walks the document to the FISC, sometimes the end-user does. Since it is impractical to depict all possible

variations, the methods most commonly employed by those included in the author's research are discussed and diagrammed here.

a. Manual Requisition Preparation Time (RPT)

Manual RPT is diagrammed in Figure 3.1. RPT begins when the end-user identifies a requirement through initial research that may include technical manuals, drawings, microfiche/film/CD-ROM libraries, discussions with manufacturers or vendors, and personal records. The requirement will either be for repair parts (to repair an equipment) or for "consumable" material or services (e.g., equipage, paint, vehicle rental). The latter are called money value only (MVO) requirements. If the requirement is for a repair part, the end-user will complete the following sequence of events: 1) open a maintenance job in SNAP (if none already exists); 2) search the equipment's Allowance Parts List (APL) resident in SNAP for an NSN match if only the cage and part number are known; and 3) order the part in SNAP. If an MVO requirement, it is ordered through a different function in SNAP. No maintenance job is opened or needed. Either way, the end-user then manually prepares a procurement document and delivers it to an SK for technical screening. *[Initial research for repair parts took from 15 to 60 minutes, depending on the library databases that needed to be searched and whether a manufacturer or vendor was contacted. Initial research for MVO requirements ranged from five minutes if of recurring nature to one hour if a manufacturer or vendor was contacted. Ordering a repair part in SNAP took from 30 to 45 minutes, most of which was spent opening the requisite job and conducting an APL search. Ordering MVO requirements took two to five minutes. Document preparation and delivery to the SK took from 10 to 30 minutes.]*

The SK first reviews the document for errors and completeness of required data. If the requirement is for a repair part or consumable material the SK will check the FEDLOG to determine if there exists an NSN substitute and the SHML (and/or other databases) to determine if the material is hazardous or otherwise restricted. Requirements for services will be checked against regulations delineating authorized service procurements. This process is known as administrative and technical screening. *[Administrative screening took one to two minutes. Technical screening took 15 to 60 minutes, depending on whether a manufacturer or vendor was queried, whether the material was hazardous or restricted, etc.]*

After the screening is completed, the end-user or SK walks the document through the Department Head, the Hazardous Material Officer (for HAZMAT), the Commanding Officer (for restricted materials and/or HAZMAT), and the Supply Officer. If the material is hazardous but not listed in the SHML, a SHML feedback report is submitted. After obtaining the requisite approvals, the document is returned to the SK who then changes the end-user's SNAP-generated request number to a requisition number. After the requisition number is transcribed onto the document, the document is ready for delivery to the procurement activity. Failure to obtain the Commanding Officer's signature for hazardous or restricted materials could result in the cancellation of the requirement. RPT is identical for credit card purchases. *[Approvals took anywhere from 30 minutes to a day, depending on the nature of the requirement (e.g. HAZMAT) and the availability of the Department Head, Commanding Officer, etc. It took two to four minutes to assign a requisition number.]*

Task	Duration (repair parts)	Duration (MVO)
Initial research	15 min - 1 hr	5 min - 1 hr
Order in SNAP	30 - 45 min	2 - 5 min
Prepare procurement document and deliver to SK	10 - 30 min	10 - 30 min
SK administrative screening	1 - 2 min	1 - 2 min
SK technical screening	15 min - 1 hr	15 min - 1 hr
Approvals	30 min - 24 hrs	30 min - 24 hrs
Assign requisition number	2 - 4 min	2 - 4 min
Total RPT	**1.72 - 27.35 hrs**	**1.08 - 26.68 hrs**

Table 3.1 Manual RPT for Ships

b. Manual Requisition Submission Time (RST) and Manual Procurement Administrative Lead Time (PALT)

Manual RST and manual PALT for procurement documents that are delivered to the procurement activity/FISC for award are diagrammed in Figure 3.2. RST and PALT for credit card buys is too simple a flow to diagram, as will become evident in the preceding paragraphs.

RST is the interval between the moment RPT is completed to the moment the procurement document is accepted by the procurement activity. "Acceptance" occurs only when FISC Customer Service, FISC Technical, and the FISC buyer are satisfied that the document is administratively complete and provides sufficient information to make the buy. Delays caused by requests for additional data are included in RST (see Appendix F for top reasons why requisitions are returned to the ship). RST is almost nonexistent in credit card purchases as these purchases are never delivered to the FISC; after the requisition number is assigned, the document is accepted by the buyer (i.e., credit card holder, likely the same SK). *[Ships reported hand-delivering or mailing 3 to 15*

nonstandard procurement documents to the procurement activity/FISC a month.] The document is first submitted to/received at FISC Customer Service where it is administratively screened. The document is then forwarded to FISC Technical where the requirement is again technically screened for NSN substitutes, HAZMAT compliance, and authorization for shipboard use. Any data inconsistencies or omissions are resolved with the ship. After technical screening, it is forwarded to the FISC buyer for contract award. *[Depending on the urgency and mode of delivery to the FISC, RST was completed in 45 minutes to ten days. RST for credit card buys took less than one minute.]*

PALT is the interval between the moment the procurement document is accepted by the buyer to the moment the contract is awarded; in other words, it is the measure of the time it takes the buyer to make a buy. PALT standards vary among different procurement activities. PALT for credit card purchases is assigned to the SK who prepares the DD Form 1155 and contracts with a local vendor for the repair part or consumable material requirement. *[Depending on the urgency, PALT at the FISC took one hour to 15 days. PALT for credit card buys made by the ship took one to 1.5 hours.]*

Process	Hand-delivered	Mailed
FISC		
RST	45 min - 1.5 hrs	3 - 10 days
PALT	1 hr - 15 days	1 hr - 15 days
Total RST/PALT at FISC	**1.75 hrs - 15 days**	**3 - 25 days**
Credit card (onboard a ship)		
RST	< 1 min	N/A
PALT	1 - 1.5 hrs	N/A
Total RST/PALT on ship	**1 - 1.5 hrs**	**N/A**

Table 3.2 Manual RST and PALT (Ships to FISC)

Process Segment	Duration
RPT	1.08 hrs - 27.35 hrs
RST	< 1 min - 10 days
PALT	1 hr - 15 days
Total Cycle Time	**2 hrs - 26 days**

Table 3.3 Manual Cycle Time (Ship to FISC)

2. Manual Process Flow Through Submarine to SLSC to FISC and Buyer

The following manual procurement process flow discussions and depictions are derived from the author's personal interviews with the Supply Officer and Leading SK assigned to USS KEY WEST (SSN 722), homeported in Pearl Harbor, the officers in charge of the Submarine Logistics Support Center, Pearl Harbor Detachment (SLSC-PH), the SUBPAC Force Supply Officer and Force Storekeeper, and FISC-PH personnel.

Submarines submit most, if not all, of their nonstandard requisitions while in port. All are hand-delivered to the SLSC-PH (or equivalent in other ports). To date, SUBPAC submarines do not maintain their own credit cards. Submarines, in the interest of stealth, keep electronic transmissions to a minimum while underway. *[Submarines reported initiating 15 nonstandard procurements a month, or 0.5 per day. Micro-purchases accounted for 99 percent and, of these, 95 percent were recurring MVO requirements. RPT was equal to that of ship MVO RPT, about one hour to one day (see Table 3.1, MVO column). Depending on the urgency of the requirement, and method or type of procurement, RST/PALT took 2 hours to 10 days (see Table 3.4). Total Cycle Time ranged from 2.17 hours to 11 days (see Table 3.5).]*

a. Manual Requisition Preparation Time (RPT)

RPT is the same as that onboard a surface ship. Figure 3.1 is equally applicable to submarines. However, 99 percent of nonstandard requirements ordered by a submarine are MVO requirements and are usually of a recurring nature and, thus, require less technical screening. *[Initial research for MVO requirements ranged from five minutes if of a recurring nature to one hour if a manufacturer or vendor was contacted. Ordering MVO requirements took two to five minutes. Document preparation and delivery to the SK took from 10 to 30 minutes. Administrative screening took one to two minutes. Technical screening took 15 to 60 minutes, depending on whether the manufacturer or vendor was again contacted, whether the material was hazardous or restricted, etc. Approvals took anywhere from 30 minutes to a day, depending on the nature of the requirement (e.g. HAZMAT) and the availability of the Department Head, Commanding Officer, etc. It took two to four minutes to assign a requisition number.]*

b. Manual Requisition Submission Time (RST) and Manual Procurement Administrative Lead Time (PALT)

Interposed between the submarines stationed in Pearl Harbor and FISC-PH is the SLSC-PH, which is located in the same building as the FISC. All SLSC-PH branches (i.e., Customer Service, Technical Section, and the credit card buyers) are located in the same open workspace. Manual RST and PALT for submarines are diagrammed in Figure 3.3.

The requisition is first submitted to Customer Service, where the document is logged in and administratively screened. It is then forwarded to the Technical Section where the requirement is again technically screened for NSN substitutes, HAZMAT

compliance, and authorized shipboard use. Any inconsistencies or omissions are resolved with the submarine, and the resultant delays are included in RST. After technical screening, the requirement is walked to either the FISC buyer (because a second technical screening is conducted by the SLSC-PH, the document bypasses FISC Technical) or, if a credit card purchase, to one of three SLSC-PH credit card holders. *[RST was completed in 45 minutes to 1.5 hours. There is no significant difference between RST involving credit card buyers or FISC buyers.]*

PALT for credit card purchases is assigned to the SLSC-PH buyer who prepares the DD 1155 and contracts with the local vendor for the consumable material requirement. PALT for other types of procurements are assigned to the FISC buyer. The close proximity of SLSC-PH to the FISC buyer ensures that critical requirements are procured rapidly. Low-priority requirements are not so forcefully expedited by SLSC-PH, but are expedited nonetheless. Copies of contracting forms are maintained by the SLSC-PH in addition to those mailed to the submarine. *[Depending on the urgency, PALT for credit card buys took 20 minutes to 1.5 hours. PALT at the FISC took 1 hour to 10 days.]*

Process Segment	Duration
RST (hand-delivered)	45 min - 1.5 hrs
PALT (credit card buy)	20 min - 1.5 hrs
PALT (FISC)	1 hr - 10 days
Total RST/PALT	**2 hrs - 10 days**

Table 3.4 Manual RST and PALT (Submarine to SLSC to FISC)

Process Segment	Duration
RPT	1.08 hrs - 26.65 hrs
RST	45 min - 1.5 hrs
PALT	20 min - 10 days
Total Cycle Time	**2.17 hrs - 11 days**

Table 3.5 Cycle Time (Submarine to SLSC to FISC)

3. ANSRS Process Flow Through Surface Ship to FISC and Buyer

The following ANSRS procurement process flow discussions and depictions are derived from questionnaire responses and telephone interviews with supply personnel from activities installed with the ANSRS prototype, including ships and FISCs. Telephone interviews were also conducted with ANSRS Program personnel at NAVSUP and NAVICP-M. *[Ships reported initiating 15 to 90 nonstandard procurements a month, or 0.5 to three a day. Approximately 75 percent were credit card purchases for those commands using a credit card. Depending on the type and urgency of the requirement, RPT was completed in 52 minutes to more than one day (see Table 3.6). Again, depending on the type and urgency of the requirement, RST/PALT took 30 minutes to 2.5 hours (see Table 3.7). Total Cycle Time ranged from 1.37 hours to more than a day (see Table 3.8).]*

Figure 3.4 is similar to the manual procurement process flow diagrammed in Figure 3.1 as ANSRS does not actually *eliminate* any steps, but instead automates them. Figure 3.4 assumes an interface between SNAP and ANSRS on a LAN-capable ship. The dotted lines indicate those steps automated by ANSRS. Likewise, Figure 3.5 is similar to

Figure 3.2 and assumes neither EDI nor interface problems between the ship and FISC and within the FISC.

a. ANSRS Requisition Preparation Time (RPT)

ANSRS RPT is diagrammed in Figure 3.4. RPT begins when the end-user identifies a requirement through an initial research that may include technical manuals, drawings, microfiche/film/CD-ROM libraries, discussions with manufacturers, and personal records. Either a repair part or an MVO requirement will be eventually ordered. ANSRS is useful as a research tool in this step for identifying MVO cage/part numbers for items such as paint. If the requirement is for a repair part, the end-user will open a maintenance job in SNAP and search the equipment's APL for an NSN match. If no match is found, the end-user will access the ANSRS program and order the requirement by cage and part number. MVO requirements can also be ordered by accessing the ANSRS program as no maintenance job is opened or needed. ANSRS will automatically check for NSN substitutes on those cage/part number relationships resident within the NSDB; the FEDLOG can also be accessed through ANSRS. The end-user next selects a procurement document format and fills in the required information. If the cage/part number relationship is resident within the NSDB, the information will already be provided on the document. The document is then ready for an online technical screening by an SK. *[Initial research for repair parts or MVO requirements ranged from two minutes to one hour depending on whether the cage/part number relationship was resident in ANSRS and/or a manufacturer or vendor was contacted. Ordering a repair part took 20 to 45 minutes, most of which was spent opening the requisite job and conducting an APL search, and again depending on whether the cage/part number relationship was resident*

in ANSRS. Ordering MVO requirements took two to five minutes. Document preparation took from five to ten minutes.]

The SK accesses the document and reviews it for completeness and errors. If the requirement is for a repair part or consumable material the SK will access the FEDLOG, the SHML, and/or other online databases to check for NSN substitutes and determine if the material is hazardous or otherwise restricted. Requirements for services will be checked against regulations delineating authorized service requirements, some or all of which may be online. *[Administrative screening took one to two minutes. Technical screening took ten minutes to one hour depending on whether a manufacturer or vendor was contacted, whether the material was hazardous or restricted, and whether FEDLOG and other databases were online ANSRS.]*

After the screening is completed, the document is ready for a series of online approvals by all necessary personnel including the Hazardous Material Officer (for HAZMAT), the Department Head, the Commanding Officer (for restricted material and/or HAZMAT), and the Supply Officer. If the requirement is urgent, the end-user may have to "urge" these officers to access their computers, a potential bottleneck, especially with Commanding Officers who may be occupied with other tasks. After all requisite approvals are obtained, the SK assigns it a requisition number. At this point, SNAP maintenance and financial modules will be automatically updated. The procurement document and any ancillary documents, such as Material Safety Data Sheet (MSDS), is then ready for transmission, or batched and awaiting transmission, via EDI to the procuring activity, usually the local FISC. RPT is identical for credit card purchases. *[Approvals took anywhere from 30 minutes to a day, depending on the nature of the requirement (e.g.*

HAZMAT) and the availability of the Department Head, Commanding Officer, etc. It took two to four minutes to assign a requisition number.]

Task	Duration (repair parts)	Duration (MVO)
Initial research	2 min - 1 hr	2 min - 1 hr
Order via ANSRS	20 - 45 min	2 - 5 min
Prepare procurement document	5 - 10 min	5 - 10 min
SK administrative screening	1 - 2 min	1 - 2 min
SK technical screening	10 min - 1 hr	10 min - 1 hr
Approvals	30 min to 24 hrs	30 min - 24 hrs
Assign requisition number	2 - 4 min	2 - 4 min
Total RPT	**1.17 hrs - 27.02 hrs**	**52 min - 26.35 hrs**

Table 3.6 ANSRS RPT for Ships

b. ANSRS Requisition Submission Time (RST) and ANSRS Procurement Administrative Lead Time (PALT)

ANSRS RST and ANSRS PALT for procurement documents that are transmitted to the procurement activity/FISC for award are diagrammed in Figure 3.5. RST and PALT for credit card buys is too simple a flow to diagram, as will become evident in the preceding paragraphs.

RST is the interval between the moment RPT is completed to the moment the procurement document is accepted by the procurement activity. Delays caused by requests for additional data are included in RST. With ANSRS, however, those requests can be made via EDI; so too can the responses from the ship. RST is nonexistent in credit card purchases because these requirements are never transmitted to the FISC. After the requisition number is assigned, the document is automatically accepted by the buyer (i.e.,

credit card holder, likely the same SK). *[Ships reported transmitting six to eight nonstandard procurements to the procuring activity/FISC a month.]* The procurement document is transmitted to/received at the FISC via EDI where it is administratively screened by Customer Service. Next, FISC Technical conducts another technical screening for NSN substitutes, HAZMAT compliance, and other restrictions to shipboard use. Any discrepancies are resolved with the ship via EDI (there should be no data omissions). After technical screening, the document is ready for the FISC buyer to contract award. *[Since all FISCs reported difficulties with receiving transmissions from a ship and/or internal incompatibility problems, RST completion is estimated at 45 minutes to 1.5 hours. RST for credit card buys was nonexistent.]*

PALT is the interval between the moment the procurement document is accepted by the buyer to the moment the contract is awarded (or, the amount of time it takes the buyer to make the buy). PALT standards vary among different procurement activities. PALT for credit card purchases is assigned to the SK who contracts with a local vendor for the repair part or consumable material requirement. *[Depending on the urgency, PALT at the FISC took 30 minutes to 15 days. PALT for credit card buys made by the ship took 30 minutes to one hour.]*

Process Segment	Duration
FISC	
RST	45 min - 1.5 hrs
PALT	30 min - 1 hr
Total RST/PALT at FISC	**1.25 - 2.5 hrs**
Credit card (onboard a ship)	
RST	N/A
PALT	30 min - 1 hr
Total RST/PALT on ship	**30 min - 1 hr**

Table 3.7 ANSRS RST and PALT (Ship to FISC)

Process Segment	Duration
RPT	52 min - 27.02 hrs
RST	0 - 1.5 hrs
PALT	30 min - 1 hr
Total Cycle Time	**1.37 - 29.52 hrs**

Table 3.8 ANSRS Cycle Time (Ship to FISC)

D. CHAPTER SUMMARY

This chapter began with brief discussions on ANSRS implementation background, schedule, and responsibilities. Next, the prototype Afloat Customer Module was presented. The core of this chapter discussed, diagrammed, and quantified the manual procurement process on both surface ships and submarines and the ANSRS procurement processes on ships (ANSRS has not been installed onboard any submarine to date). Task completion times were given as a minimum to maximum value range.

Manual RPT for both surface ships and submarines are comparable. However, repair parts take approximately 37 percent longer to order than MVO requirements, principally because of time expended opening a maintenance job, and submarines rarely order a nonstandard repair part. ANSRS creates some small time savings for ships but does not significantly reduce the range; similar results are likely for submarines.

RST and PALT differences between ships and submarines can be attributed to whether or not the requirement has to be delivered to an external procurement activity and, if so, the delivery method used. For ship requirements hand-delivered to the FISC, RST/PALT ranged from 1.75 hrs to 15 days; mailed documents took from three to 25 days. Submarines hand-deliver all their procurement documents to an intermediate support activity such as SLSC-PH. For submarines, RST/PALT for FISC buys ranged from 1.75 hrs to 10 days. The shorter maximum is attributed to the expediting efforts of the SLSC-PH, which is located in the FISC building. ANSRS creates significant RST/PALT time savings for ships when near-instantaneous delivery time and elimination of additional technical screening at the FISC is factored in. Maximum values are reduced from 25 days to as little as 2.5 hours. When credit cards are used, RST/PALT maximums for ships are about half of that for submarines, 1.5 hours compared to 3 hours. Submarines (in SUBPAC) do not have their own credit cards as yet and must hand-deliver the requirement to the intermediate support activity. ANSRS reduces RST/PALT for credit card time by 30 minutes on both sides of the range, principally because of paperwork reductions. ANSRS creates reductions in Cycle Time maximums for ships from 26 days under the manual process to under 30 hours. ANSRS would likely produce a similar maximum for submarines.

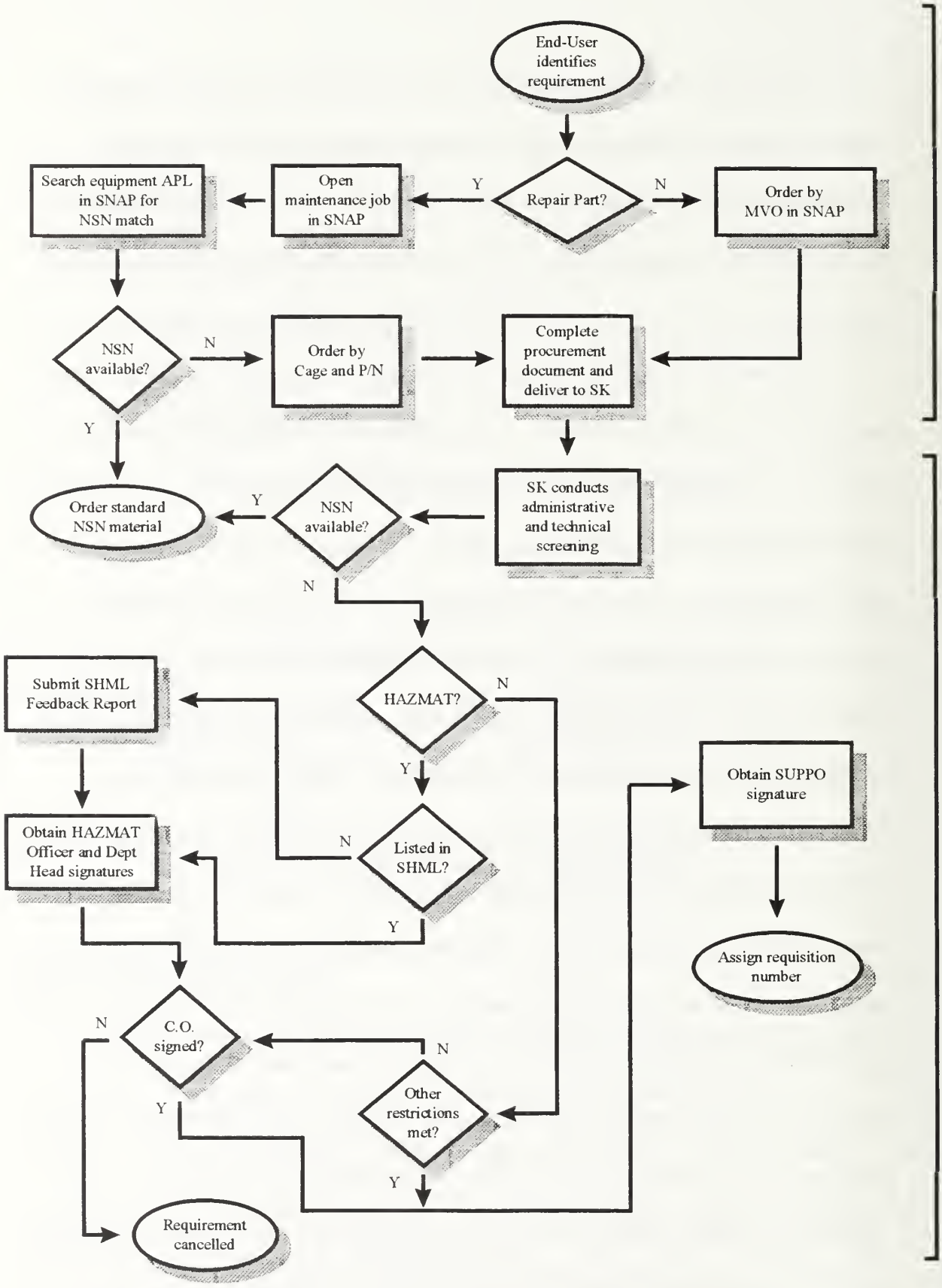

Figure 3.1

Manual Procurement Process Flow: Requisition Preparation Time (RPT) for Surface Ships and Submarines

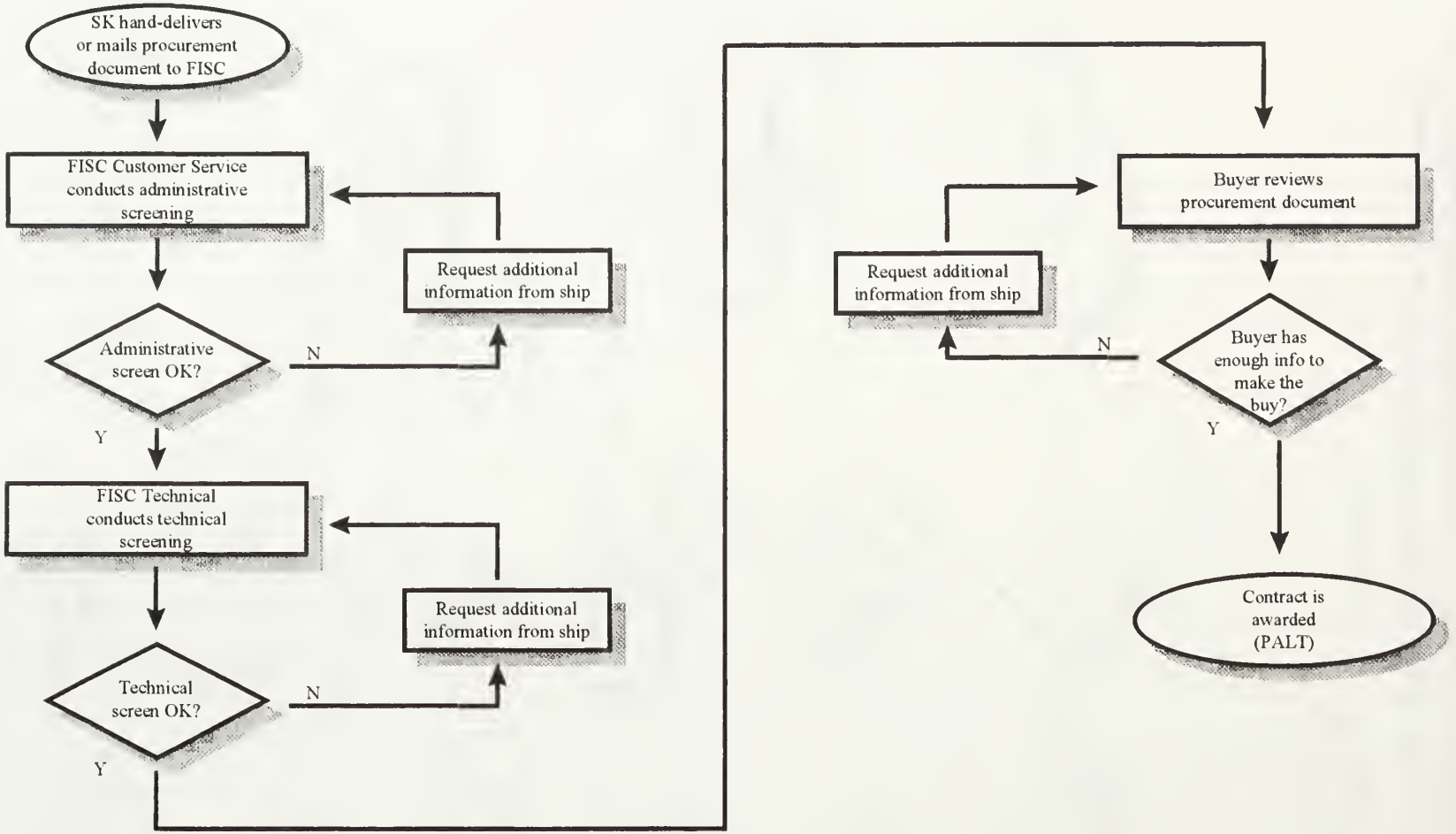

Figure 3.2

Manual Procurement Process Flow: Requisition Submission Time (RST) and Procurement Administrative Lead Time (PALT) for Surface Ships

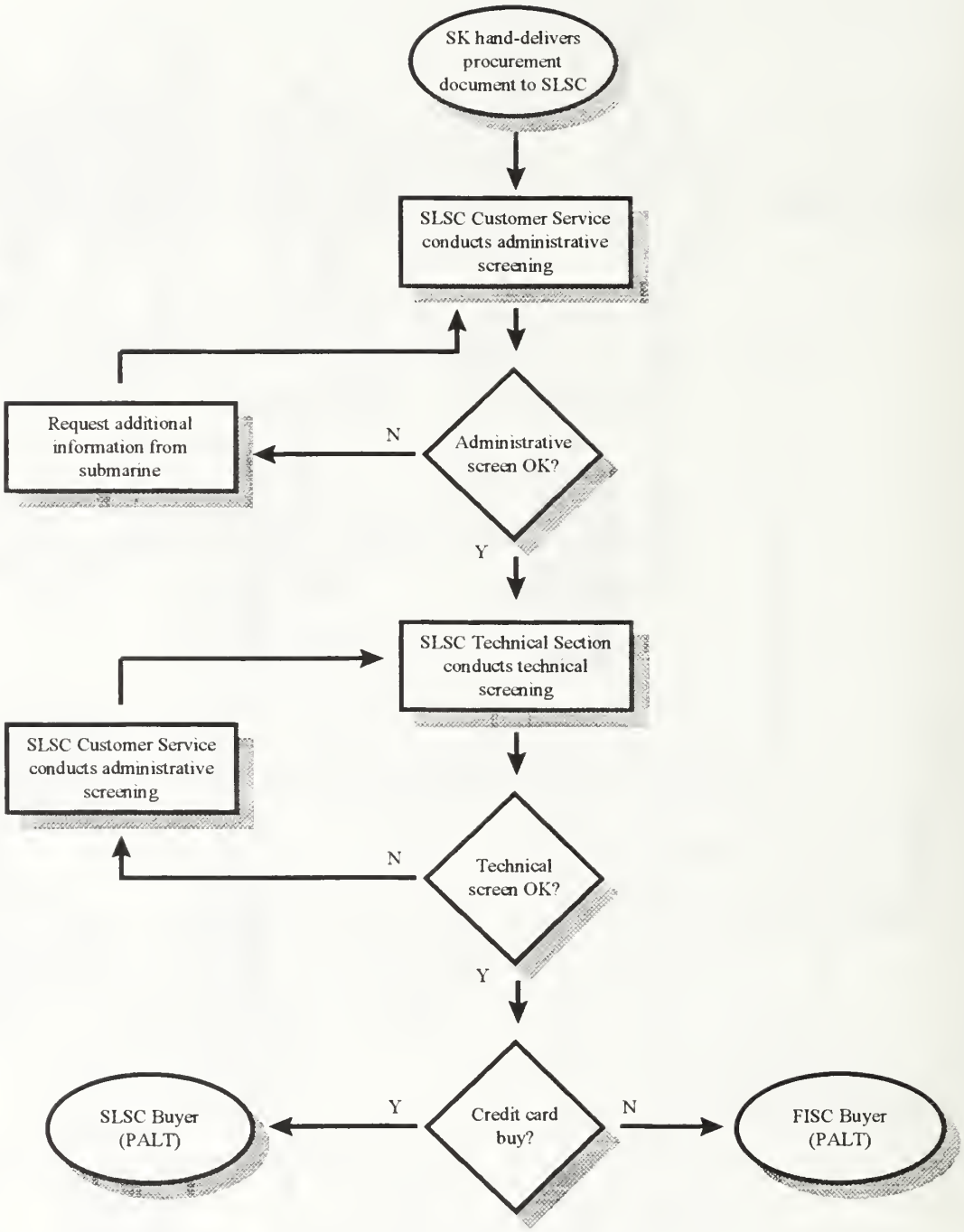

Figure 3.3

Manual Procurement Process Flow: Requisition Submission Time (RST) and Procurement Administrative Lead Time (PALT) for Submarines

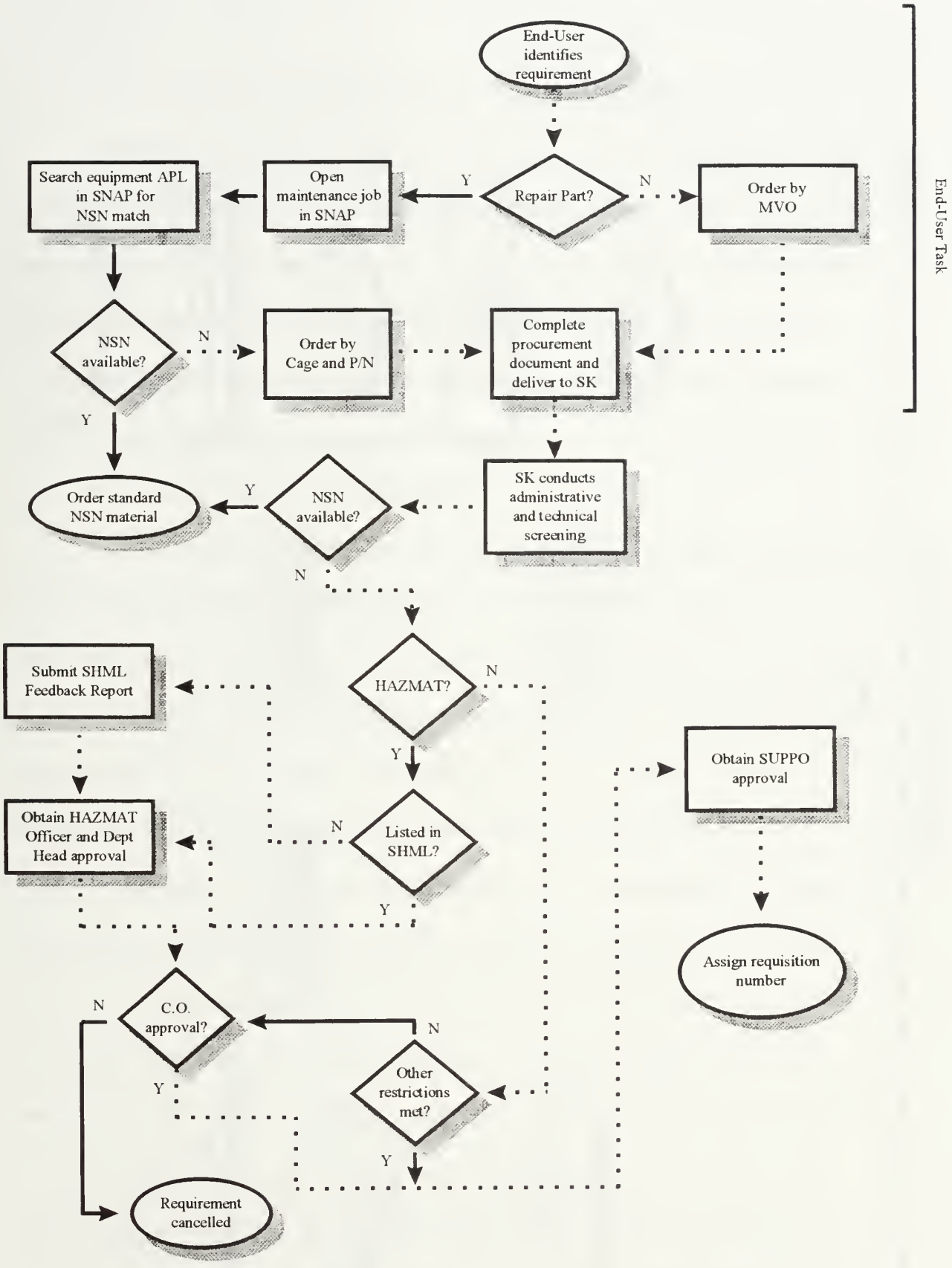

Figure 3.4

ANSRS Procurement Process Flow: Requisition Preparation Time (RPT) for Surface Ships

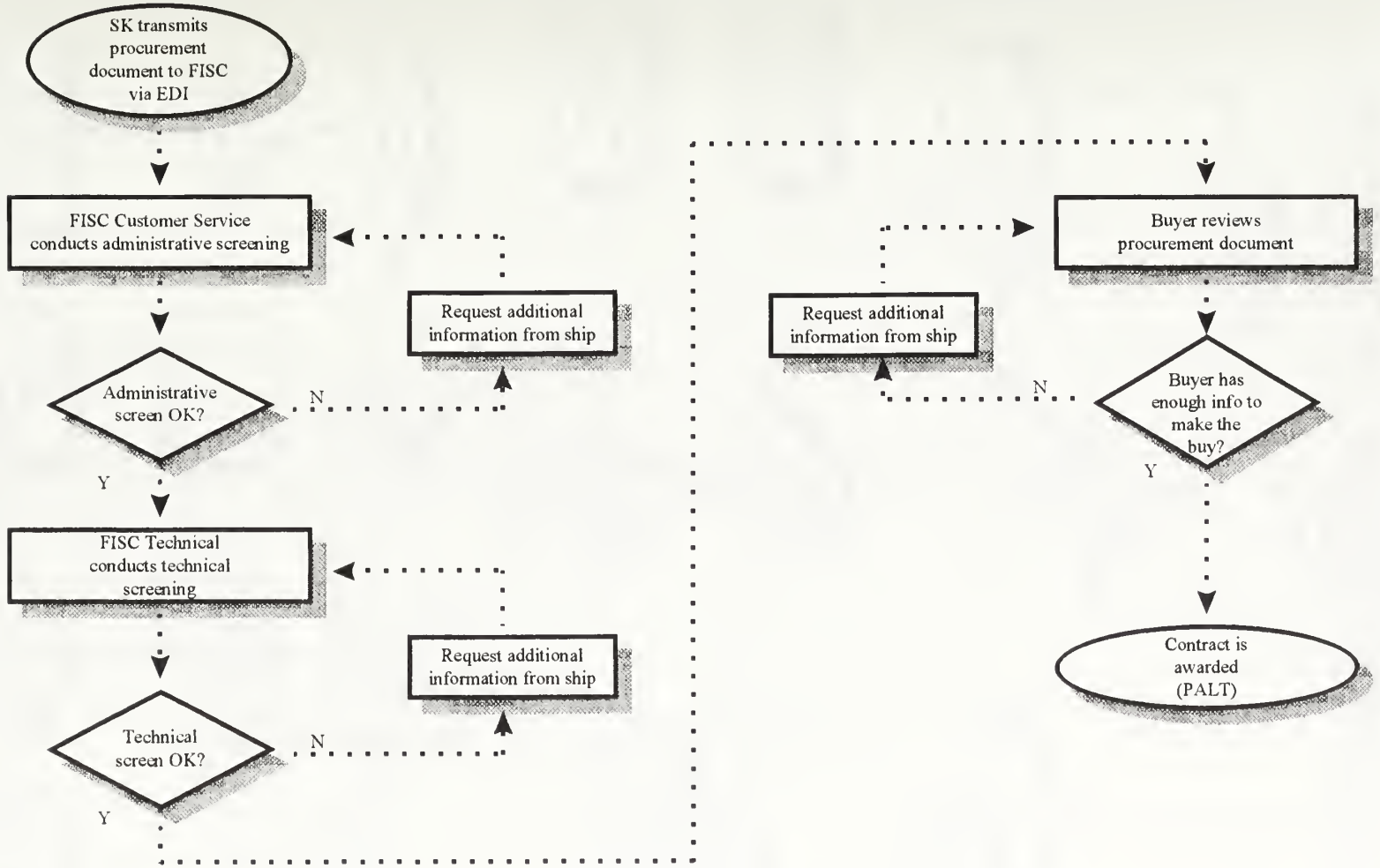

Figure 3.5

ANSRS Procurement Process Flow: Requisition Submission Time (RST) and Procurement Administrative Lead Time (PALT) for Surface Ships

IV. DATA COLLECTION AND ANALYSES

This chapter focuses on the questionnaire used in this study (Appendix E). It was selected as the primary research tool to measure the effectiveness of ANSRS prototype implementation. Background is presented, responses are discussed and tabulated (where applicable), and the results are analyzed. Additionally, an example of an unsuccessful prototype installation is discussed, diagrammed, and analyzed. Finally, a brief analysis on measures of effectiveness and cost is presented.

A. QUESTIONNAIRE BACKGROUND

In order to ascertain the efficacy of ANSRS to the Navy customer, a questionnaire was developed and submitted to all Pacific Fleet commands installed with any one of the three ANSRS prototype modules. On 5 November, 1997, the questionnaire was directly emailed to 27 points of contact assigned to 21 commands. These commands consisted of eight SURFPAC ships, one AIRPAC ship, seven FISC/FISC satellites, one Naval Air Station, two Ship Repair Facilities (SRF) and two Fleet Activities (FLEACT) in California, Washington (State), Hawaii, and Japan. Follow-up telephone calls revealed some instances where software incompatibility rendered the questionnaire unreadable, requiring 13 questionnaires to be resent via fax and three to be subsequently conducted over the telephone (by request of the respondent). Because some ships were underway and could not be reached by telephone until late in the month, the last fax was transmitted on 20 November. All but three points of contact were confirmed to have received the questionnaire (no telephone number was provided for these three, and email follow-ups were not answered). The accompanying cover letter requested that all ANSRS users within a command be given the opportunity to respond. Discussions with a cross-section

of the commands suggested that approximately 107 personnel were potential respondents. Eventually, 42 responses were received (39%), consisting of 8 Supply Corps Officers, 18 Storekeepers, 4 RPPOs, and 12 civilians. Follow-up questions were conducted with 16 points of contact.

B. QUESTIONNAIRE RESPONSES AND ANALYSES

This section is divided into the broad categories of the questionnaire. Some questions required either short or essay responses, while others were yes/no or Likert-Type Scale in design. First, the rationale behind each category is discussed. Next, all questionnaire questions are repeated verbatim (in bold type), responses tabulated where applicable, and remarks provided for clarification. An analyses is presented at the end of each category.

1. Manual Open Purchase Process (Pre-ANSRS, Pre-Credit Card)

This category of questions was designed to obtain information on the manual nonstandard procurement processes flow from the end-users perspective, problems and bottlenecks encountered, and LRT. This information was incorporated into those sections in Chapters II and III that discuss and/or quantify the manual procurement process. It was also used, in part, to diagram Figure 3.1.

a. ***Briefly* describe the process flow (from end-user to the contracting activity's customer service desk), approximate time involved in each step, the personnel involved in each step, and any paperwork or document requirements.**

Remarks: See Figure 3.1 for a composite manual nonstandard procurement process flow.

b. **What problems did (do) you encounter with the manual open purchase process? What and where in the process were (are) the bottlenecks?**

Responses:	Obtaining signatures:	13 (31%)
	Lack of communication between ship and FISC	13 (31%)
	Incomplete information from end-user:	12 (29%)

Remarks: Some respondents provided more than one answer.

c. **Approximately how long did (does) it take to receive your material this way?**

Responses:	Range:	3 weeks to 1 month for CONUS activities
		30 to 60 days for OCONUS activities

Remarks: This question would have been more germane to this study had it asked "Approximately how long does it take for your requirement to be awarded at the procurement activity?"

Analysis: Afloat and shore end-users had little difficulty explaining the process flow and the bottlenecks encountered. They could not, however, accurately quantify the temporal aspects of the process. This was not unexpected; despite the evident need to automate processes in this time of downsizing, measuring those processes is a difficult task, at best. This deficiency has lead to more than one automated system to be developed and implemented at great expense within the fleet, only to be abandoned or underutilized by those it was meant to help because it could not be shown, quantitatively, how it would improve the process. Of the three bottlenecks mentioned, only the former, obtaining signatures, will likely be exacerbated by automation because a busy officer is more likely to sign a piece of paper presented during a small break in the action than drop everything to log on the terminal. Expediency will, in all probability, lead to password violations.

2. IMPAC Credit Card

ANSRS is the only known program (to the author) that captures credit card demand and is expected to be deployed throughout the fleet. This category was designed to provide an idea on how prevalent credit card use is in the fleet.

a. **Do you currently use the IMPAC credit card?**

Responses: Yes: 29 (69%)
No: 13 (31%)

b. **If so, since when?**

Responses: Range: 2 - 11 months.

c. **Describe the workload that was reduced or eliminated. By what percentage?**

Responses:	Simplifies procurement process: (52% of credit card users)	15
	Easier tracking/monitoring: (24% of credit card users)	7
	Receive material faster: (72% of credit card users)	21
	Range:	90 - 100%

Remarks: Some respondents provided more than one answer. RPPOs reported 100% workload reductions.

d. **Describe the workload that was increased or created. By what percentage?**

Responses:	More open purchase demands: (41% of credit card users)	12
	Increased validation of requirements: (41% of credit card users)	12
	Bill/payment auditing: (66% of credit card users)	19
	Range:	30 -75%

e. **Do you feel that the credit card makes your job easier? Harder? Why?**

Responses: Easier: 24
(83% of credit card users)
Harder: 5
(17% of credit card users)

Remarks: Responses to the third part of this question are incorporated into questions *c* and *d*. All shipboard personnel responded *easier*.

Analysis: All but one ship used the credit card, which attests to its popularity with afloat commands. However, several respondents reported an increased reliance on the credit card for ordering repair parts and a corresponding increase in total open purchase requests. It appears that many maintenance personnel are focusing their efforts on identifying local sources of procurement instead of relying on the supply system. This could result in negative configuration control ramifications as non-approved parts make their way into the "this is what we've always used" category while the equipment keeps failing. It could also degrade readiness for deployed ships when the equipment breaks and there is no local supplier. Total Asset Visibility (TAV) objectives are also compromised. However, it also points out that the "system" is not satisfying all of its customers.

3. ANSRS Training

This category was designed to obtain customers' perceptions on the quality of the training provided. Its intent was to determine whether training was successful in providing the necessary skills to operate ANSRS and alleviating any initial trepidation towards its use.

a. **When did you first hear about ANSRS?**

Responses:	Prior to install:	35 (83%)
	During install:	7 (17%)

Remarks: One command reported a 37 month notification; most reported 8 - 9 months

b. **What types of training did you receive? Duration?**

Responses:	None:	0	
	Self-training:	0	
	1 on 1:	20 (48%)	1 hr.
	Group:	16 (38%)	1 to 4 hrs.
	Lecture:	14 (33%)	1 to 4 hrs.
	Hands-on:	11 (26%)	2 to 4 hrs.
	Other:	0	

Remarks: Some respondents reported receiving more than one type of training.

c. **Would you describe the training as good, thorough, and worthwhile? If not, what would have helped?**

Responses:	Yes:	25 (60%)
	No:	17 (40%)

Remarks: *Yes* includes "adequate" or "satisfactory" responses. Some respondents felt that training should include actual transmissions and/or responses from the FISCs. Two (from different commands) felt that the instructors did not know their subject matter very well. One reported that people walked out during the training session.

d. **At what point did you understand what ANSRS was intended to do?**

Responses:	Pre-training:	14 (33%)
	During training:	16 (38%)
	After working with it:	2 (5%)
	Still somewhat unclear:	10 (24%)

e. **At what point did you understand how to use ANSRS?**

Responses:	During training:	19 (45%)
	After working with it:	13 (31%)
	Still somewhat unclear:	10 (24%)

f. **How difficult is it for you to adequately train someone within your organization on ANSRS?**

Responses:	Haven't had to yet:	16 (38%)
	Not difficult/easy:	15 (36%)
	Moderately difficult:	11 (26%)
	Very difficult/hard:	0
	Impossible:	0

g. **How would you improve ANSRS training within your command?**

Responses:	Hands-on training:	15
	(58% of those who have trained)	
	Devote more time:	3
	(12% of those who have trained)	
	No response:	8
	(31% of those who have trained)	

h. **Do you know where to get assistance within your organization if needed?**

Responses:	Yes:	37 (88%)
	No:	5 (12%)

i. **Do you know where to get assistance outside your organization if needed?**

Responses:	Yes:	36 (86%)
	No:	6 (14%)

j. **Do you know how or where to send feedback or suggestions?**

Responses:	Yes:	31 (74%)
	No:	11 (26%)

Analysis: All respondents reported receiving at least one type of training. However, 40 percent did not find the training worthwhile, and ten percent are still unclear

on how to use ANSRS. Additionally, 14 percent of the respondents did not know where or from whom to get outside assistance, and 26 percent did not know how or where to send feedback and suggestions. Additionally, 42 percent of personnel who attempted to train someone within their command found the task moderately difficult. These indicators point to the essentiality of tailoring training to the customers' needs.

4. ANSRS Usage

This category was primarily designed to provide the information to be used in comparison with the manual procurement process; this information was incorporated into Chapter III and was used, in part, to diagram Figures 3.4 and 3.5. It was also intended to discover if a causal relationship could be determined between usage, training, and installation.

a. How often do you use ANSRS?

Responses:	Daily:	20 (48%)
	Weekly:	11 (26%)
	A few times per month:	0
	Rarely:	0
	Never:	11 (26%)

b. What do you use ANSRS for?

Responses:	NSN screening:	15
	(48% of ANSRS users)	
	HAZMAT screening:	4
	(13% of ANSRS users)	
	Mandatory source screening:	15
	(48% of ANSRS users)	
	Credit card procurements:	12
	(39% of ANSRS users)	
	Other small purchases:	11
	(35% of ANSRS users)	
	Large procurements:	17
	(55% of ANSRS users)	
	Other:	0

Remarks: Some respondents reported more than one use.

c. **Who uses ANSRS in your organization?**

Responses:	Commanding Officer:	0
	Executive Officer:	0
	Supply Officer:	12
	HAZMAT Officer:	0
	Storekeepers:	29
	RPPOs:	44
	Others:	19

d. ***Briefly* describe the process flow (from end-user to the contracting activity's customer service desk), approximate time involved in each step, the personnel involved in each step, and any paperwork or document requirements.**

Remarks: See Figures 3.4 and 3.5 for composite ANSRS procurement process flows.

e. **What and where in the process are the bottlenecks?**

Responses:	No internal interface/cannot update files:	29 (69%)
	Obtaining signatures:	13 (31%)
	No external interface/connection:	2 (5%)

Remarks: Some respondents provided more than one answer.

f. **Approximately how long does it take to receive your material this way?**

Responses: No significant variation from question 1*b* responses (p. 53).

Remarks: Same as question 1*b* remarks (p. 53).

g. **Does ANSRS decrease your workload (e.g. saves time, saves paperwork?)**

Responses:	Yes:	21 (68% of ANSRS users)
	No:	10 (32% of ANSRS users)

h. **If yes, describe how and rank in order of importance to you.**

Responses:	Trips to/time spent at the FISC:	13
	(62% of *yes* respondents)	
	No response:	8
	(38% of *yes* respondents)	

i. **Does ANSRS increase your workload in any area?**

Responses:	Yes:	27 (87% of ANSRS users)
	No:	4 (13% of ANSRS users)

j. **If yes, describe how.**

Responses:	Double entry of data:	22
	(81% of *yes* respondents)	
	Added step in credit card process:	8
	(30% of *yes* respondents)	
	No response:	9
	(33% of *yes* respondents)	

Remarks: Some respondents provided more than one answer.

k. **What should ANSRS do for you that it cannot now do?**

Responses:	Interface with FEDLOG:	13 (31%)
	ANSRS should match manual forms:	8 (19%)
	Import scanned files:	4 (10%)
	Make job easier:	4 (10%)
	Upload to APADE:	2 (5%)
	No response:	11 (26%)

l. **Does your command receive a Non-Standard Data Base (NSDB) update on a regular basis?**

Responses:	Yes:	24 (57%)
	No:	18 (43%)

Remarks: *No* includes "don't know" responses.

m. **If yes, how often?**

Responses: Once: 8
(33% of *yes* respondents)
No response: 16
(67% of *yes* respondents)

n. **Does ANSRS interface with FEDLOG?**

Responses: Yes: 22 (52%)
No: 20 (48%)

o. **Is ANSRS installed on a LAN within your organization?**

Responses: Yes: 21 (50%)
No: 21 (50%)

p. **Do you like ANSRS?**

Responses: Yes: 23 (55%)
No: 7 (17%)

Remarks: 12 (30%) did not understand this question. It should be rewritten to ask "Do you like the concept behind ANSRS?"

Analysis: The ANSRS prototype has not been very successful. More than a quarter of respondents don't even use it and another ten percent are using it less frequently than before. Those that do use ANSRS are not receiving the full benefits that ANSRS was designed to provide. Less than half of those who still use ANSRS do not use it for technical screening. Although 68 percent of those using ANSRS reported that it lessened their workload, the major reason cited was that it saved a trip to the FISC. Conversely, 87 percent of those who use ANSRS reported that it increased their workload. By far, the most common problem encountered was double entry of data caused by the lack of interface with other systems, principally SNAP. It appears that, although training was not fully successful, indoctrination was; the majority of respondents were eager to have a system like ANSRS, but "one that works."

5. Miscellaneous

This category was designed to complement the previous questions and to provide specific information on all nonstandard procurements initiated by each command and the amount of additional equipage required to implement and use ANSRS. This information was also incorporated into Chapter III.

a. **On average, how many open purchase requisitions do you submit per month for credit card purchases?**

Responses:	Less than 6:	0
	6-10:	0
	11-15:	0
	16-20:	4
	(14% of credit card users)	
	21-25:	12
	(41% of credit card users)	
	More than 25:	13
	(45% of credit card users. Range: 33 to 63)	

b. **Non-credit card small purchases?**

Responses:	Less than 3:	31 (74%)
	3-5:	3 (7%)
	6-10:	5 (12%)
	11-15:	0
	16-20:	3 (7%)
	More than 20:	0

c. **Large purchases?**

Responses:	1:	0
	2:	2 (5%)
	3:	1 (2%)
	4:	1 (2%)
	More than 4:	6 (14%)
	(Range: 6 to 8)	

Remarks: 30 (71%) respondents reported zero.

d. **Approximately what percentage of ____ open purchases are for repair parts (vice consumables, equipage, services, etc.)?**

Responses:	Credit card:	18 (62%)
	(of credit card users. Range: 25% to 95%)	
	Non-credit card small:	11 (26%)
	(Range: 20% to 25%)	
	Large:	7 (17%)
	(Range: 5% to 25%)	

e. **Approximately what percentage of ____ open purchases are procured using ANSRS?**

Responses:	Credit card:	14 (48%)
	(of credit card users. Range: 25% to 90%)	
	Non-credit card small:	8 (19%)
	(Range: 25% to 100%)	
	Large:	17 (40%)
	(Range: 10% to 100%)	

f. **What kinds and how much extra equipage (e.g. terminals) was needed to implement ANSRS within your organization?**

Responses:	One terminal and monitor:	4 (10%)
	None or no response:	38 (90%)

Analysis: One afloat command reported that 95 percent of its credit card purchases were for repair parts. This appears grossly excessive, but the ship could not be reached for clarification. Generally, the usage rates reported were credible and ordinary.

6. Additional Comments

This section was used to elicit any comments that respondents felt were important but not addressed above. However, most comments applied to the previous categories and were incorporated therein.

Comments:	
Using ANSRS less frequently than before:	4 (10%)
ANSRS should only be used at FISC:	3 (7%)
ANSRS still being installed:	2 (5%)
No response to feedback:	1 (2%)

C. ANSRS IMPLEMENTATION AT FISC PEARL HARBOR

When ANSRS is unsuccessfully implemented, human energy is expended to "work around" the problems encountered, resulting in other process flow disruptions and causing resistance to change. Figure 4.1 illustrated how the unsuccessful implementation of ANSRS at FISC-PH creates and inefficient process flow, and in one instance actually causes additional workload for the ship.

Procurement document data in ANSRS format is either hand-delivered on a disk or transmitted via SALTS to Customer Service. If received via SALTS, the data is downloaded to a disk because SALTS does not interface with ANSRS. The disk is walked to Technical for technical screening. The procurement data can be sent via email, but this mode of transmission bypasses Customer Service and instead goes directly to a terminal in Technical. The data is imported into ANSRS for technical screening. If there are no discrepancies, a hard copy of the DD 1155 is printed and walked to the buyer. However, if either Technical or the buyer discover any discrepancies, the ship is contacted and *a brand new procurement document, not the old one with updated/corrected information, must be generated by the ship and transmitted.* Corrections cannot be made by FISC personnel.

D. MEASUREMENTS OF EFFECTIVENESS AND COST

One may conclude that, generally, automating any manual process will produce efficiencies in labor, paper, time, and other resources. However, unless one can measure segments of the process and apply costs, one cannot quantify those efficiencies with any degree of precision. Since the objective of this study is to determine the feasibility of implementing ANSRS within SUBPAC, the ability to quantify data and conclusions is

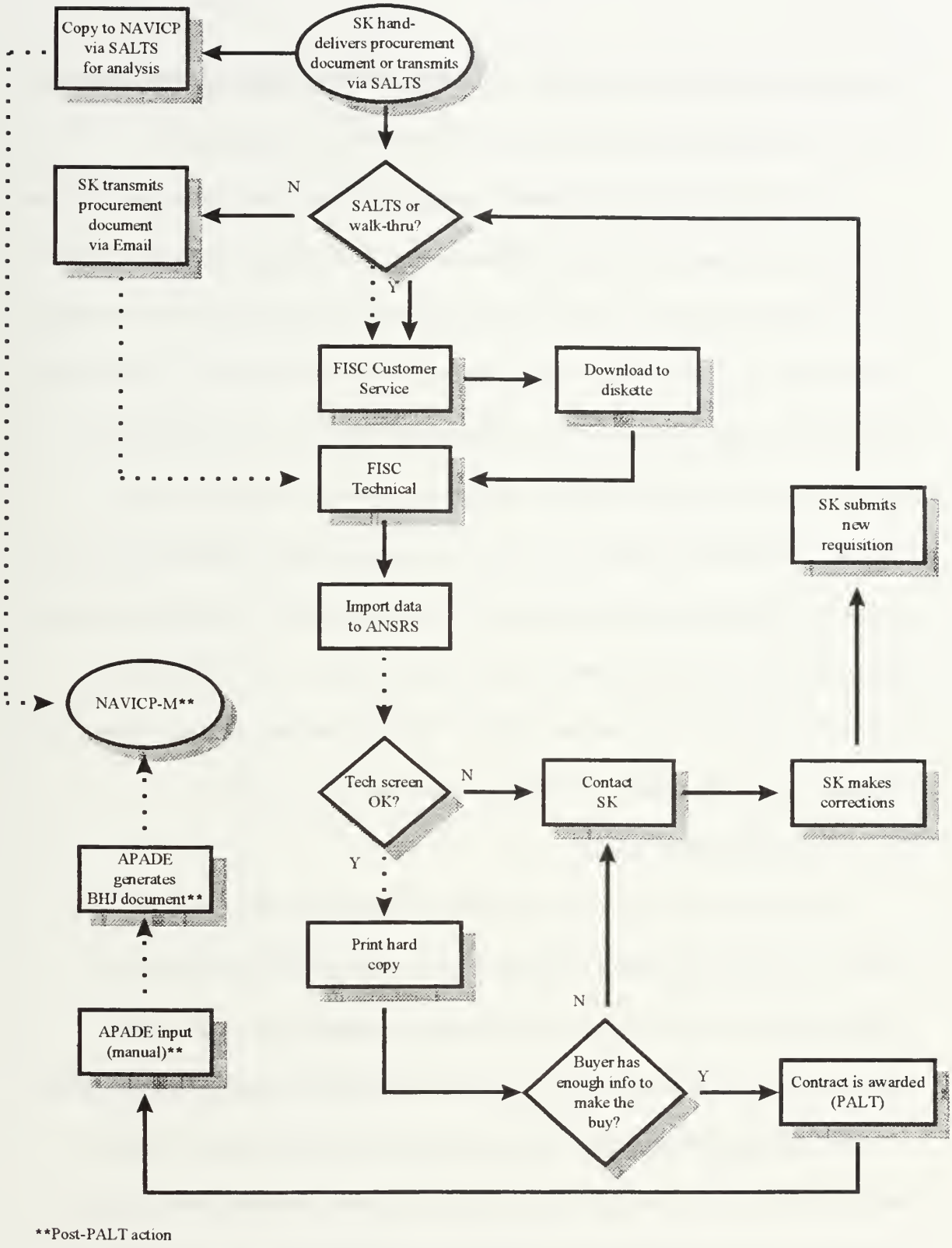

Figure 4.1

ANSRS Process Flow at FISC Pearl Harbor (FISC-PH)

imperative. Research indicates, however, that few measures of effectiveness and costs related to the nonstandard process exist; those that do are not standardized.

The analysis presented at the end of paragraph B1 stated that those personnel who responded to the questionnaire had a difficult time providing temporal measures. This task was equally difficult for NAVICP, NAVSUP, contracting, and contractor personnel. The measures are just not there. To compensate, the author improvised: "Cycle Time" defined as a truncated segment of its usual meaning—LRT—but with an additional segment to measure the time it takes to develop and process a requirement before assigning a requisition number to it—RPT. The author attended a symposium on LRT in August 1997 and discovered that although RST was defined, there were many disparate opinions on how to measure it, and no rational way to cost it. PALT is a generally understood term, but it too does not conform to any hard and fast standard, and any cost measurements associated with it could not be provided to the author.

E. CHAPTER SUMMARY

ANSRS prototype implementation has not wrought the efficiencies that were intended. Several questionnaire responses and the unsuccessful implementation of ANSRS at FISC Pearl Harbor support this argument. Training was only partially effective. Connectivity problems, both internal and external, are significant impediments to ANSRS acceptance and usage. However, the efficiencies and resultant workload reductions that ANSRS *could* provide are attractive to and desired by fleet customers. The paucity of standardized and/or useful measures of effectiveness and cost creates a significant obstacle to current ANSRS implementation objectives and future ANSRS improvement initiatives. Preliminary benchmarks are offered with the survey results. For

maximum ranges, problems should be identified and resolved so to reduce variation in the process.

V. CONCLUSIONS AND RECOMMENDATIONS

The data collected for this study, while not always as precise as desired, is nonetheless sufficient to draw conclusions pertinent to the objective of this study and identify areas that warrant further research. This final chapter begins with conclusions and recommendations and ends with peripheral issues that appear to be valid candidates for later research.

A. CONCLUSIONS AND RECOMMENDATIONS

1. It would be beneficial to implement ANSRS within SUBPAC.

ANSRS should be implemented within SUBPAC, on submarines and at SLSC-PH (to include the other SUBPAC shore/tender activities that provide the same types of services as SLSC-PH). The data indicates that ANSRS implementation can create significant time efficiencies for ships. A comparison of Tables 3.3 and 3.8 shows that total Cycle Time can be reduced from a high maximum of 26 days to a low maximum of just over one day. This significant reduction is predicated on the elimination of connectivity glitches, a broadly stocked NSDB, and a minimum of document errors generated by the ship. Indeed, if left unresolved these problems will create the same or worse results as the prototype has produced so far. The development of the Windows NT version is a step in the right direction.

The entire case for implementing ANSRS within SUBPAC is not based solely on efficiencies from which ships might benefit. As stated in the opening paragraph of Chapter III, the submarine community is logistically different than the surface and air communities. SUBPAC's successful efforts to reduce the workload of the afloat Supply Department (the stated rationale behind SLSC-PH, *et al.*) allows submarine supply personnel to

concentrate on configuration management and achieve a greater than 93 percent configuration accuracy rate. SLSC-PH also provides a dedicated cadre of personnel to expedite all submarine requirements and act as experts at "working the system". Because of these advantages, submarines can better rely on the supply system and rarely order a nonstandard repair part. These advantages may erode, however, as the push towards inventory reductions and reliance on COTS and NDI—CANDI—equipment, which will not likely be supported by the supply system, gains momentum. The secondary support, then, for implementing ANSRS on submarines comes from the ability of ANSRS to provide NAVICP with equipment support histories and demand data, to be used by NAVICP to conduct deep technical screening, maintain the integrity of submarine Weapon Systems Files, and avert repair part shortages. There is no evidence to suggest that ANSRS implementation will cause significant operational/relational changes between submarines, shore support activities such as SLSC-PH, and FISCs.

a. Build a record of success before implementing ANSRS within SUBPAC.

A proven record of success should be achieved within the other Navy communities before implementation begins within SUBPAC. Based on informal interviews with numerous submarine officers and enlisted, the interconnectivity problems between SNAP and ANSRS, and those between customer, procurement activity, and NAVICP must be resolved, or any briefing with "ANSRS" and "improved readiness" will likely fall on deaf ears, and may instead be seen as a threat to workload reduction imperatives.

b. Develop tailored training for submarines and fund pierside experts.

Conduct personal interviews with personnel at all levels of SUBPAC to determine readiness objectives and methods use to attain them. Paper surveys and questionnaires are not as effective as personal interviews. Operational necessities will not always conform to preset training schedules; a pierside expert or two at the FISC will be able to provide hands-on training to submarines (and other commands) during windows of opportunity. They can hold group training at the FISC if there is surge in demand. They will also be available to answer questions, take action on feedback, and obtain NSDB updates for commands that may have missed getting one because of deployment. In short, they will help sustain user proficiency (afloat and ashore), positively impact logistics readiness, and cut down on training travel costs.

c. Devise a method for obtaining signatures off line.

The bottleneck common to both the manual and ANSRS procurement process questionnaire questions was the difficulty of obtaining approval signatures. The author can personally attest that SNAP access passwords belonging to Department Heads are given to subordinates. The author can also personally attest that when the practice was stopped, the backlog of non-approved requirements in SNAP rose dramatically and rapidly. The reason for this is because it is often impractical for officers on watch, conducting engineering drills, etc. to break away and access a terminal. FEDEX has the ability to obtain paperless signatures they can then upload into their computer system. NAVMASSO should easily be able to adapt this technology to ANSRS. A hard copy of

the requirement will have to be printed out for review by the signatory, but that is preferable to doing nothing.

2. To measure and improve the process, ANSRS performance and costs should be measurable.

ANSRS performance and costs have to be measurable. It is not sufficient to only install a system such as ANSRS on a submarine and let it perform. It is not unreasonable to assume that new policies, whether enacted by Congress or the Navy, will force logisticians to redefine business practices in the future. When that time comes, any decision to scrap and replace ANSRS, improve it, or do nothing can only be intelligently made by researching a bank of *relevant and accurate* performance and cost data.

a. Develop performance indicators.

The performance indicators provided in this study should be used as preliminary benchmarks and improved upon. Shipboard personnel should be able to download performance measures that indicate how long a requisition has sat in any or all measurement segments including ordering time, technical screening time, awaiting approval time, awaiting requisition number assignment time, awaiting transmission time, PALT, shipping delay, receipt processing time, etc. Computer systems record the date and time of every action; if a key must be stroked to accomplish or record any action, then the time interval between those strokes can be measured. This will help the users to improve the process by highlighting the bottlenecks. Similarly, users should be able to quantify the number and types of nonstandard procurements either submitted or awarded, error counts, transmissions via email versus SALTS, etc.

b. Develop cost measures.

Associate standardized cost amounts to each performance measurement. Measurement of costs may be useful to ships and other end-users interested in determining how much of their operating budget is spent on open procurements. However, costs are more likely to be of use at the FISC and NAVICP levels, where specialization of labor and tasking is more prevalent and thus more susceptible to budgetary influences. One can imagine, however, that if FISCs ever become Working Capital Fund (previously: DBOF) activities, their customers will be very interested in cost measurements.

B. PERIPHERAL ISSUES

1. Credit Card Usage

Research data *implies* that credit cards are being used, to an unknown extent, to circumvent supply system repair part logistical support for equipment repair. As stated earlier, this could have serious readiness implications for both short-term and long-term readiness. Yet it may also foretell how future support, especially for CANDI equipment, will be conducted. Since ANSRS captures credit card procurement data, it may play a pivotal role in the development and implementation of future logistics support procedures. Further research may provide some useful insights or conclusions.

2. Technical Libraries

ANSRS allows the user to access technical libraries online. This, in itself, is not justification for reducing or eliminating backup manual library resources. Ships sometimes lose all power in emergencies, and then is not the time to have no means for researching technical information. It may be of benefit to study if and how the push for "paperless

environments" and systems automation affects the Navy's ability to provide hard-copy backup resources.

APPENDIX A: TECHNICAL SCREENING EXPERT SYSTEM (TSES) CAPABILITIES

Source: Ref. 13

1. Is Local Area Network (LAN) compatible, requires 10 MB of hard disk space, approximately 450 KB of free RAM. and DOS 3.3 or above.

2. Is user-friendly, has a User's Manual, Tutorial, and context-sensitive Help System available with the F1 function key.

3. Incorporates a Training Manual utilized at on-site training sessions and provided to the user facility for additional training.

4. Program Manager distributes newsletter quarterly with information relevant to TSES.

5. Program Manager and support personnel update all databases and reference information prior to each quarterly distribution. At present, this is done via discs, scanning, etc.

6. Transmits data via SALTS, MODEM, DISC, Bulletin Board, INTERNET.

7. Distinguishes by Unit Identification Code (UIC) designator (ex. USS) or, if not identified, by the first letter of the requisition to determine if the buy is for ship or shore use and, accordingly, follows two different logic paths.

8. Provides the user the ability to automatically "fill out" 80-card column MILSTRIP data in the Local Database and transmit this information electronically to NAVICP-M for input into the nonstandard database for inclusion in the next quarterly distribution.

9. Interfaces with eight other data information modules, references, subscriptions at the user's discretion.

10. Upon input of a NSN, Part Number or Name, automatically searches the NonStandard Database, as well as, five (5) other resident and one non-resident database: Local, Plastic Removal In Marine Environment (PRIME), Local HazMat Authorized Use List (AUL), Ships Hazardous Material List (SHML), Authorized Medical/Dental Allowance List (AMAL/ADAL), and a non-resident database, the Hazardous Inventory Control System (HICS) (if installed as activity LAN or PC application). Search provides information, such as: the item is hazardous, non-hazardous; authorized, prohibited; replacement NSN available; ODS; plastic with a non-plastic alternative; medical/dental; available in HAZMIN Center; requires a Material Safety Data Sheet (MSDS), SHML Feedback Report (SFR), NAVSUP Form 87, etc.

11. Provides reference material via Function Keys, View Data Menu, Database Tools, some of which are: FED-STD-313C, Tables I and II (Appendix A), Material Safety Data, Transportation Data and Disposal Data for Hazardous Materials Furnished to Government Activities; Federal Supply Classification (FSC) Catalog, H2-1, Part 1, Groups and Classes; NAVSUPINST 4200.85C, Enclosure 3, Shore and Fleet small Purchase and Other Simplified Purchase Procedures; Dual Cognizance (COG) Codes; Special Material Identification Codes (SMIC); Type of Storage Codes (TOS); Special Material Content Codes (SMCC); Shelf/Life (S/L) Codes; Shelf Life Action Codes (SLAC); Unit of Issue (UI) Codes; Hazardous Characteristics Codes (HCC); Hazardous Material Identification Codes (HMIC); Unit Identification Codes (UIC); Acquisition Advice Codes (AAC); Ozone Depleting Substance (ODS) Chemical Names; NAVSUP/NAVSEA/NAVAIR/MILITARY SEALIFT

COMMAND/MARINE CORPS Authorized User List of the ODS Reserve; ODS Procurement Approvals, etc.

12. Automatically produces correspondence and forms, capturing input information, providing the ability for the customer to personalize such correspondence/forms (if standardization is not essential), direct to a file and/or transmit via SALTS, MODEM, DISC, INTERNET.

13. Allows the user to Batch Process (input a disc in ASCII text file) and automatically screen NSN requisitions, divide them into those authorized and not authorized, create a historical summary of those not authorized.

14. Provides a Batch modify module to enable the user to change all entries in one specific field in either the Local or Local HazMat AUL Databases.

15. Provides a Suspense Tickler File on-line which dates those items that require an SFR or NAVSUP Form 87 due-back within a specified time.

16. Provides a summary of all action either input or captured from the databases and system queries in a format which can be electronically transmitted or saved to a file.

17. Creates a historical summary which is accessed via a Function key and is saved for a period of six months.

18. Enables user, via Report Generator, to design and personalize reports, capturing specific database fields, tailored by activity to print required reporting information. These forms are saved in the report generator, making it easy to print the same information weekly, monthly, quarterly.

19. Provides letter built into system for electronic transmission, indicating any problems or enhancements to system. Personal contact via phone, and customer visits by Programmer, Program Manager at NAVSUP and NAVICP-M and other support personnel has provided and continues to provide expeditious programming updates. At present, includes desk top manager amenities, such as, calculator, appointment calendar, etc.

APPENDIX B: STANDARD PROCESSING ENVIRONMENT FOR ELECTRONIC DOCUMENTS (SPEED)

Source: Ref. 13

1. APPLICATION A runs Customer Workstation via Emulator Control Screen and Workstation System Screen.

    a. Allows user to show, edit and browse requisitions, utilizing data validation codes, expedite codes and release authorization codes.

    b. Sends requisition to Customer-Host via SALTS subsequent to an error validation check.

2. APPLICATION B runs Customer-Host via Emulator Control Screen and Customer-Host System Screen.

    a. Allows user to get requisitions via filename, select report options and view screen display.

    b. Permits user to approve, edit and browse documents.

    c. Transmits, subsequent to validation, approved requisitions to SALTS.

    d. Provides a system action summary page prior to exit to processing screen.

3. APPLICATION C runs FISC-HOST via Emulator Control Screen and FISC-Host System Screen.

    a. Host receives requisitions, downloads requisitions from SALTS, processes receipts and posts actions to LAN.

4. APPLICATION D runs FISC-TECH via Emulator Screen and FISC-TECH System Screen.

    a. Allows user to get incoming requisitions, download summary screen, review requisitions, select single requisition to approve via browse, and edit requisition.

    b. Displays MCRL-data, tech advisories, opens pipeline and status input window.

    c. Displays status and tech certification.

    d. Releases documents for final processing.

    e. Transmits all completed work to APADE/UADPS/SALTS.

APPENDIX C: ANSRS OBJECTIVES

Source: Ref. 13

SYSTEM

The system objectives are analogous to all aspects of the ANSRS program and identify what the whole system will do subsequent to meeting all the objectives listed.

1. To provide a single automated requisition processing/technical screening system that will accommodate all new technologies and utilize the best of the existing systems in order to facilitate centralization and optimization of the technical screening function for nonstandard material requisitions.

2. To perform a basic-level technical review (customer level) of each requirement, generate an electronic requisition, download requisition via SALTS and forward to the CTA/FISC.

3. To automatically screen incoming electronic requisitions through the CTA and generate status in the NAVICP Document Status File (DSF).

4. To build validations and edits into the system to enable communication/interface between all participants via SALTS/Electronic Data Interchange (EDI), and the Military Standard Transaction Requisitioning and Issue Procedures (MILSTRIP) via Uniform Inventory Control Program (UICP)/Uniform Automated Data Processing (UADPS)/Shipboard Uniform Automated Data Processing System (SUADPS) transmissions, so as to maintain status and demand criteria.

5. To screen out exceptions and queue those items with inadequate data for manual review.

6. To produce a database of all nonstandard requisitions resident, maintained, updated at the CTA and distributed via CD-ROM as part of the Customer and Procurement Activity Modules.

7. To assure optimum visibility of all nonstandard material buys.

8. To design a user-friendly, flexible system that will minimize hardware requirements and will meet the needs of a broad range of customers, from afloat to ashore.

9. To develop on-line help, data field validation tests and error correction to assist in document preparation.

10. To develop customer specific guidelines and detailed standardized instructions as to how to use the system, how to technical screen items and a decision matrix as to which items will need "deep" technical screening, at the customer level and the central site.

11. To provide on-line technical, relevant Department of Defense information in the form of a quarterly newsletter. This will include new instructions, executive orders, etc.

12. To develop a methodology to systematically update all databases, reference information, etc. that reside in the Customer, Procurement Activity and Host modules.

13. To develop system implementation plans.

14. To develop contingency plans.

CUSTOMER SUPPORT MODULE

The Customer Support Module resides at the user activity and is the first step in the technical screening process. The objectives inherent in the design of this module are as follows:

1. To design and develop a customer support module, utilizing the electronic nonstandard requisitioning document for client-server and stand-alone systems.

2. To provide in this customer module a nonstandard database that is updated from the CTA via CD-ROM.

3. To allow the customer to automatically "fill out" a requisition (DD Form 1348-6, NAVSUP Form 1250-2, DD Form 1149 or 80-card column MILSTRIP information), assign a requisition number via SUADPS/UADPS and transmit electronically to CTA or Procurement Activity Modules via EDI, SALTS, MODEM.

4. To enable the customer to initially tech screen buys to identify need, gather data via CD-ROM nonstandard database, Federal Logistics Information System (FLIS), HAYSTACK, PARTSMASTER, etc., identify interchangeable or substitute items and eliminate those non-exigent items which do not need to process through central database technical screening (ex: is there a NSN, does it fit the purchase card requirements, etc.). These requisitions will bypass the Central Database; however, they will be captured in the Demand Recording Document (BHJ) tracking system via Automated Procurement and Accounting Data Entry (APADE) suspense files.

5. To provide as much reference material/instructions (edits) on-line as is feasible to save additional hours of searching hardcopy manuals, etc.

6. To develop on-line help, built-in users' manual and print down capability.

7. To develop data field validation tests and error correction to assist in document preparation (for ex. Fund code, project code, accounting line data).

8. To provide a method to configure system to execute (interface/"hotkey") other data information modules, references, subscriptions.

9. To give the customer the option to batch process requisitions, using ASCII text files, and/or batch modify databases, selecting a field and replacing the values with new data, if this method is feasible.

10. To establish both automated and manual parameters and procedures for database file maintenance; automatically track items in the nonstandard database which were assigned a NSN or a NSN was found in the screening process, and remove them from the nonstandard database.

11. To electronically produce correspondence/forms which relate to the system processes, capture input data on these letters/forms, provide the ability for the customer to personalize such correspondence and forms (if standardization is not essential), direct to a file and/or transmit via EDI, SALTS, MODEM.

12. To provide the capability to create a system summary of all actions taken during customer screening to remain in a history file for a predetermined time.

13. To build summary transmission of all data input into system and extracted from cognizant databases.

14. To create a report generator capable of designing customer specific reports for administrative tracking and reporting purposes.

15. To empower the customer with the ability to suggest other enhancements, problems with the system. via dedicated phone line, which will improve customer support modules and create an efficient. time-saving desk top manager, reducing administrative workload. To continue program development as the system develops and subsequent to implementation.

16. To enable ANSRS participants to input, edit and receive requisitions in MILS-standard format.

17. To enable download of data files or requisitioning transactions to floppy discs for transfer to PCs not linked to local area network (LAN).

18. To screen incoming requisitions for items containing hazardous materials, establishing correct data requirements for ordering; determined whether requisitioned item is approved for user activity; determine whether requisitioned item is coded for environmental or other special recovery program such as the Ozone Depleting Substance (ODS) program; and determine if there are environmentally friendly substitutes.

19. To provide frequent automatic backup capability to prevent loss of data and/or transactions during program use.

20. To provide immediate suggestion to originator on where to send requisition for screening and procurement, i.e. FISC or CTA.

21. To develop approval protocols and security checks for appropriate ordering authorizations to be input to database.

22. To track transactions, performance of cognizant personnel and pertinent Automated Data Processing (ADP) systems through key events in screening and procurement processes.

23. To provide retech capability for actions entered erroneously.

24. To develop inquiry only option, creating ability to browse database without actually processing a requisition.

25. To provide capability to archive prior procurement data and build a historical file.

26. To provide capability to input nonstandard data or other information which may enhance tech screening capability; this includes identification of weapon system application the specific procurement is meant to support.

PROCUREMENT ACTIVITY MODULE

The Procurement Activity Module will include all the objectives identified in the Customer Module (except where they are identified as customer specific objectives) with the addition of the following:

1. To provide a system to the FISC which receives SALTS/EDI transmissions, provides technical screening capability at the FISC, provides interface with APADE, and forward transmissions to the CTA for cases requiring "deep" technical review.

2. To enable LAN capability, providing personnel the ability to share and forward case-specific information.

3. To receive and transmit requisitions and related data via land-based computer networks such as the Internet and SLICENET.

4. To enable development of comprehensive demand database, capturing demand on items bought locally by FISCs.

5. To permit speed routing of requisitions to cognizant material management activity (such as "MD" source-coded items which will be made or assembled instead of purchased).

6. To create FISC-generated BD status in UADPS-SP Requisition Status File (RSF) and provide status to customer via AUTODIN.

7. To provide technical screening status information to customer/CTA.

8. To feed FISC developed screening data, procurement information and technical screening actions to the CTA for central storage and dissemination to other FISCs to preclude duplication of effort, this includes periodic reconciliation of FISC and CTA databases.

9. To forward technical screening data and procurement orders to APADE programs.

10. To provide capability to receive input transactions in military standard format.

11. To enable screening personnel to input data into the database.

HOST MODULE

The Host/Central Tech Activity Module will include all the objectives identified in the Customer and Procurement Activity Modules (except where they are identified as customer or FISC specific objectives) with the addition of the following:

1. To design and develop a Central Database or Host Module capable of accepting EDI, SALTS, MODEM transmissions of nonstandard requisitions. This will ensure that all "deep" technical screening of nonstandard buys occurs at the central site and is accomplished in a standardized format, enabling the central site to maintain an up-to-date technical library, easily accessible to screening personnel.

2. To generate BD status in DSF upon receipt (B01 input to UICP), creates requisition status information and provides status to customer via AUTODIN.

3. To generate BM status in DSF upon referral to APADE (input to UICP), reflects referral of procurement package to FISC after tech screening, provides status to customer via AUTODIN.

4. To generate BV status in DSF upon referral to Integrated Technical Item Management and Procurement (ITIMP) (input into UICP), informs customer via AUTODIN that item is being procured by NAVICP and will be delivered directly.

5. To electronically capture APADE data into the BHJ application, matching Allowance Parts List (APL) and technical data from ANSRS nonstandard database base on document ID. To assign a unique Local Stock Number (LSN). To report the purchase of nonstandard material to NAVICP/Integrated Material Manager (IMM) databases, BHJ input to UICP.

6. To maintain status of buys screened and procured by NAVICP-P. To interface with NAVICP-P in the distribution of aviation items, status (number of items transmitted to NAVICP-P, data sent, and action taken), and update of the nonstandard database.

7. To accept technical screening and procurement referrals from the FISCs.

8. To correctly prioritize each buy and determine the criticality of timely processing. A matrix will be loaded into the system to automatically determine priority and mission critical elements and a turn around time (TAT) will be established based on these elements.

9. To define Central Technical Database fields and FLIS information necessary for "deep" tech screening.

10. To perform "deep" technical screening on those items which were not system compatible subsequent to Customer Module, Central Technical Database screening (ex. Items that do not cross to a NSN, Hazardous Material items, etc.)

11. To perform "deep" technical screening using all available references, technical library material, including, but not limited to: Master Item File (MIF), Master Cross Reference List (MCRL), historical data, procurement information, Navy Publications, drawings (EDMICS), MIL-SPECS, FLIS, FEDLOG, PartsMaster, SNAPSHOT, Inventory Locator Service (ILS), etc. To provide as much reference material/instructions on-line as is feasible to save additional hours of searching hardcopy manuals, etc., and to provide a method configurable to execute ("hotkey") other data information modules/references/subscriptions.

12. To update nonstandard database in ANSRS with predetermined types of items for resubmission to Customer/Procurement Activity Support Modules via CD-ROM on a predetermined basis.

13. To electronically provide supply options, action posted on requisition, date of action, etc. to all parties involved.

14. To electronically submit to correct procurement activity and record all actions taken.

APPENDIX D: LIST OF SITES IMPLEMENTED

FISC Jacksonville
- USS GETTYSBURG (CG 64)
- USS PHILIPPINE SEA (CG 58)

FISC Norfolk
- Pierside CEP 170/Q71
- USS EMORY S LAND (AS 39)
- USS SAIPAN (LHA 2)
- NAS Norfolk
- NAS Willow Grove

FISC Pearl Harbor
- FISC Pearl Harbor-Barber's Point
- USS CUSHING (DD 985)
- USS LAKE CHAMPLAIN (CG 57)
- USS PAUL HAMILTON (DDG 60)
- NAS Barber's Point

FISC Puget Sound
- USS ABRAHAM LINCOLN (CVN 72)
- USS CARL VINSON (CVN 70)

FISC San Diego
- FISC San Diego-Broadway
- FISC San Diego-Point Loma
- USS MCKEE (AS 41)
- USS SHILOH (CG 67)
- USS TARAWA (AS 41)

FISC Yokosuka
- FISC Yokosuka-Sasebo
- USS BELLEAU WOOD (LHA 2)
- USS RODNEY M DAVIS (FFG 60)
- SRF Yokosuka
- SRF Yokosuka-Sasebo
- COMFELACT Yokosuka
- COMFLEACT Sasebo

APPENDIX E: QUESTIONNAIRE

ANSRS QUESTIONNAIRE

Note: Some questions may not be pertinent, in entirety or in part, to your job. Please answer as much of any question as you can, to the best of your knowledge. If you don't know part or all of any question, or if the question is N/A, say so.

1. Manual Open Purchase Process (Pre-ANSRS, Pre-Credit Card)

   a. *Briefly* describe the process flow (from end-user to the contracting activity's customer service desk), approximate time involved in each step, the personnel involved in each step, and any paperwork or document requirements.

   b. What problems did (do) you encounter with the manual open purchase process? What and where in the process were (are) the bottlenecks?

   c. Approximately how long did (does) it take to receive your material this way?

2. IMPAC Credit Card

   a. Do you currently use the IMPAC credit card? Y N

   b. If so, since when?

   c. Describe the workload that was reduced or eliminated. By what percentage?

   d. Describe the workload that was increased or created. By what percentage?

   e. Do you feel that the credit card makes your job easier? Harder? Why?

3. ANSRS Training

   a. When did you first hear about ANSRS?

   b. What type(s) of training did you receive? Duration?
      - None
      - Self-training
      - 1 on 1
      - Group
      - Lecture
      - Hands-on
      - Other (describe)

   c. Would you describe the training as good, thorough, and worthwhile? If not, what would have helped?

   d. At what point did you understand what ANSRS was intended to do?
      - Pre-training
      - During training

- After working with it
- Still somewhat unclear

e. At what point did you understand how to use ANSRS?
   - During training
   - After working with it
   - Still somewhat unclear

f. How difficult is it for you to adequately train someone within your organization on ANSRS?
   - Haven't had to yet
   - Not difficult/easy
   - Moderately difficult
   - Very difficult/hard
   - Impossible

g. How would you improve ANSRS training within your organization?

h. Do you know where to get assistance within your organization if needed? Y N

i. Do you know where to get assistance outside your organization if needed? Y N

j. Do you know how and where to send feedback or suggestions? Y N

4. ANSRS Usage

a. How often do you use ANSRS?
   - Daily
   - Weekly
   - A few times per month
   - Rarely
   - Never

b. What do you use ANSRS for?
   - NSN screening
   - HAZMAT screening
   - Mandatory source (NIB/NISH/UNICOR) screening
   - Credit card procurements
   - Other small purchase procurements
   - Large procurements
   - Other (describe)

c. Who uses ANSRS in your organization?
   - Commanding Officer
   - Executive Officer
   - Supply Officer
   - HAZMAT Officer
   - Storekeepers (how many?)
   - RPPOs (how many?)
   - Others (describe)

d. *Briefly* describe the process flow (from end-user to the contracting activity's customer service desk), approximate time involved in each step, the personnel involved in each step, and any paperwork or document requirements.

e. What and where in the process are the bottlenecks?

f. Approximately how long does it take to receive your material this way?

g. Does ANSRS decrease your workload (e.g. saves time, saves paperwork)? Y N

h. If yes, describe how and rank in order of importance to you.

i. Does ANSRS increase your workload in any area? Y N

j. If yes, describe how.

k. What should ANSRS do for you that it cannot now do?

l. Does your command receive a Non-Standard Data Base (NSDB) update on a regular basis? Y N

m. If yes, how often?

n. Does ANSRS interface with FEDLOG? Y N

o. Is ANSRS installed on a LAN within your organization? Y N

p. Do you like ANSRS? Y N

5. Miscellaneous

a. On average, how many open purchase requisitions do you submit per month for credit card purchases?
   - Less than 6
   - 6-10
   - 11-15
   - 16-20
   - 21-25
   - More than 25 (how many?)

b. Non-credit card small purchases?
   - Less than 3
   - 3-5
   - 6-10
   - 11-15
   - 16-20
   - More than 20 (how many?)

c. Large purchases?
   - 1

- 2
- 3
- 4
- More than 4 (how many?)

d. Approximately what percentage of _____ open purchases are for repair parts (vice consumables, equipage, services, etc.)?
   - Credit card
   - Non-credit card small
   - Large

e. Approximately what percentage of _____ open purchases are procured using ANSRS?
   - Credit card
   - Non-credit card small
   - Large

f. What kinds and how much extra equipage (e.g. terminals) was needed to implement ANSRS within your organization?

5. Additional Comments

Date ANSRS installed:

Date ANSRS usage began:

Rate/rank:

Position (SUPPO, Leading SK, RPPO, etc.):

Name/phone number/e-mail/address (optional):

May I contact you if I have any follow-up questions? Y N

Would you like a summary copy of the results? Y N

THANK YOU!!

APPENDIX F: TOP REASONS WHY PROCUREMENT DOCUMENTS GET SENT BACK TO SHIPS FROM FISC

1. Insufficient description on forms/poor description of competitive items - could be two manufacturers with similar items - include size, dimensions, type, etc. for a better description
2. Missing waivers for using mandatory sources
3. Missing justification for sole source requests
4. Incomplete accounting information - accounting spread, TAC
5. Missing justification for ADP/IT requests
6. Missing requisition/document numbers - each line item needs a requisition number. APADE specific - cannot have one requisition number for 15 line items
7. Missing approval signatures
8. Missing HAZMAT-related attachments - SHML and MSDS
9. Missing GSA contract numbers
10. Missing IDTC contract numbers
11. Original equipment manufacturer (OEM) not identified

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